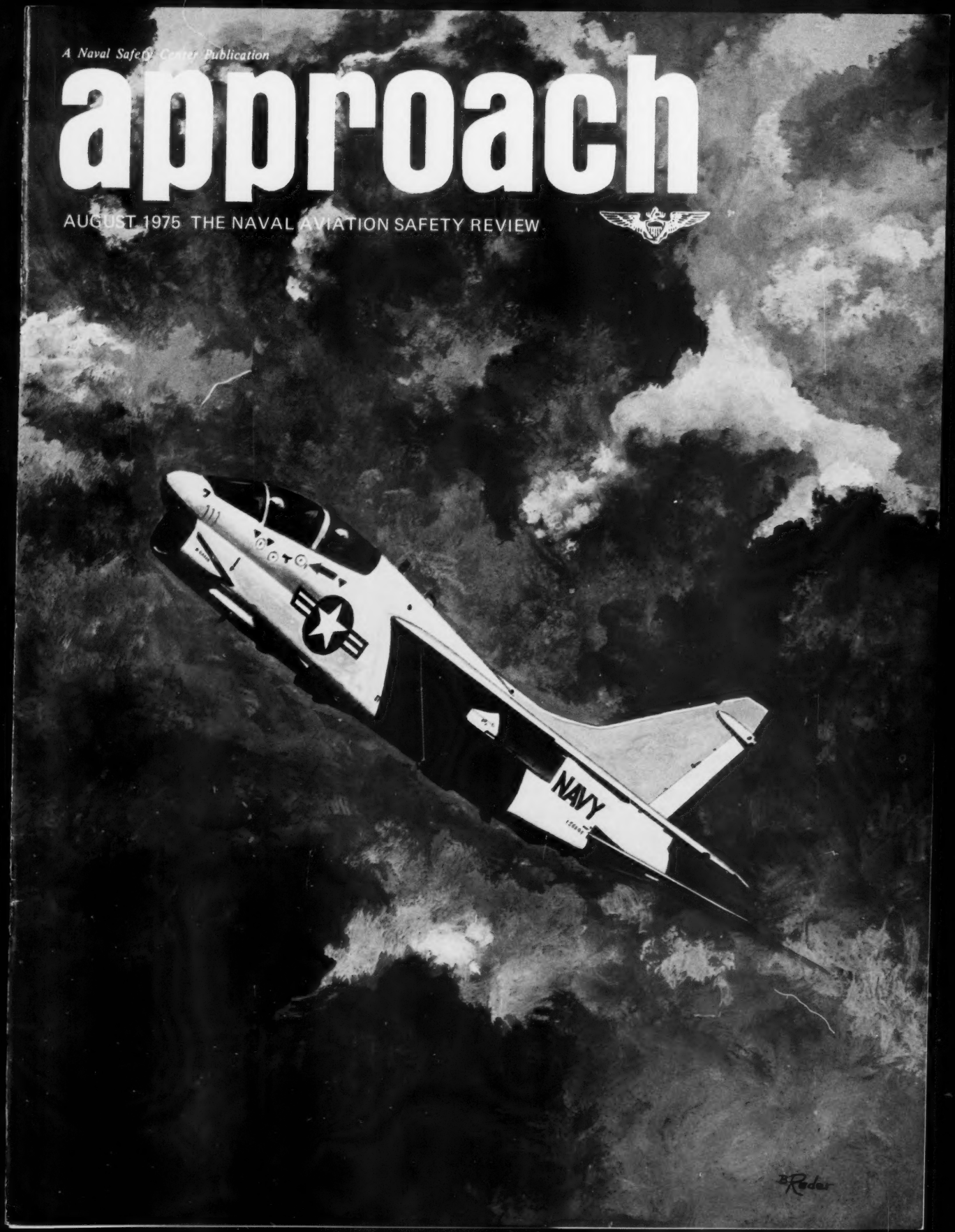
A Naval Safety Center Publication

approach

AUGUST 1975 THE NAVAL AVIATION SAFETY REVIEW



Ever had a routine flight suddenly turn to worms? If so, you'll sympathize with the pilots of this flight of four *Phantoms*.

As is often the case, it took a combination of errors by several people, in this case, the pilots, controllers, and forecasters, to lay the groundwork for a near disaster. Fortunately, some good work by the pilots helped counteract the mistakes, and no aircraft were lost. The story makes exciting reading, however, and contains lessons for all. You draw your own conclusions about what *you* would have done in these circumstances.

King of the Road

A WEST Coast F-4 squadron was returning its nine *Phantoms* to homebase from an East Coast deployment. The first day of the transcontinental flight proceeded without incident. All nine aircraft launched from USS BOAT and flew to NAS East Coast. After a quick turnaround, they continued on in flights of three to NAS Inland for RON.

The plan for the second day called for the flights of three to continue on to Southwest AFB, where they would refuel and join for a nine-plane flight into NAS West Coast. However, one aircraft was having fuel quantity indicator problems, so the plan was changed to fly the faulty bird two legs to Southwest AFB with one aircraft to accompany it. The remaining seven aircraft were split into flights of four and three.

At Base Ops, the flight planners for the squadron called Southwest AFB and found that not only had Southwest not received the squadron's message stating its intention to stop there, but also that the AFB was PPR and would not be able to accommodate nine F-4s. The flight plan was changed to stop over at Nearby International. Weather there was forecast as 5000 broken, 9000 overcast, with 7 miles visibility. Southwest AFB was also reporting VFR and expected to remain that way, so it was chosen as a possible alternate. The individual flight leaders briefed their flights.

The two-plane flight was the first to launch – no problems.

The four-plane flight followed 30 minutes later. Their launch was delayed for 10 minutes on the ground because of a bad starting unit, but was otherwise without incident. The division joined and climbed to altitude. The lead aircraft was lowest state in the flight by several hundred pounds.

As the flight of four progressed beyond the halfway point, No. 2 switched to Metro. His report to the flight leader was the first warning of impending trouble. Nearby International was reporting 800 scattered, 1400 overcast, 1½ miles visibility in rain and fog, and expecting to get worse. Southwest was in a similar condition with 300 overcast, 1-1/8 miles visibility in rain and fog. The flight had passed Big State Air Terminal

just a few minutes prior, at 35,000 feet, and had been able to see the ground at that point. The flight leader requested and was granted clearance to double back and land at Big State. Weather at the field was given by Center as 700 variable overcast with 3 miles visibility. At this time the squadron's two-plane flight checked in on the same center frequency, enroute to Nearby International. They decided to continue on because of their higher fuel state, and better chances if an alternate was needed.

As the flight of four descended, the leader requested breakup into sections for two-plane GCAs and section landings. Center acknowledged the request. At 12,000 feet the flight was switched to Big State Approach. Low state was 4.2.

On Big State frequency, the flight leader again requested section GCAs and landings. Approach rogered the flight now at 6000 feet and asked if the flight had the current weather. The weather given to the leader at that time was 200 obscured, ¼ mile visibility in fog. Well into the approach and with intermittent ground contact through a broken cloud layer, the decision was made to continue the approach, but in single-plane elements. Low state was 2.8, well below the 3.0 VFR or 4.0 IFR bingo to the nearest alternate, Southwest AFB.

The flight leader, a commander with 1300 hours in the F-4, had as his crewmember a maintenance chief petty officer to ensure proper servicing of the flight and to correct maintenance difficulties encountered enroute. As he turned final in section with No. 2 at 18 miles, Approach advised that the RVR was 1800 feet. After splitting the section, Approach notified No. 1 to continue the ILS approach and contact tower. Number 1 immediately replied, *"Hey, babes, I said GCA. We're not ILS equipped,"* to which Approach replied, "Roger, we do not have precision radar, sir. Stand by for a surveillance approach." Number 1 descended to ASR minimums of 500 feet until called over the runway, then descended further to 200 feet on his radar altimeter. He spotted the runway to his right, did a modified wingover, and landed on the 13,500-foot runway with 9000 feet remaining. His rollout was uneventful, compared to the approach, and he waited after clearing the runway, monitoring the other approaches. One down, three to go.

The wingman of the first section (No. 2) was new to the squadron, with 140 hours in the *Phantom* and 1700 total hours, mostly as a primary flight instructor. His RIO was a senior lieutenant on his second F-4 sea tour with 1500 hours of F-4 experience. Their surveillance approach to published minimums was unsuccessful and they were vectored downwind for a second attempt. Their state at waveoff was 3.2.

Leader of the second section (No. 3) was a junior lieutenant on his first tour with 400 *Phantom* and 700 total hours. His crewman was a second class petty officer from the line division, also along for maintenance purposes. This was his first flight in an F-4. Their

approach was equally unsuccessful, and a missed approach to downwind was taken.

Tail end Charlie (No. 4) was a foreign exchange pilot who had been with the squadron 2 months and had accumulated 130 hours of F-4 time. His crewmember was also a second class petty officer from the line division, but with 2000 hours in F-4s as a crew chief for the Blue Angels. Through a misunderstanding of minimum descent altitude, No. 4 ended up over the field 2000 feet higher than the MDA – clean. As he turned downwind, the flight leader came up on common approach frequency and told No. 4, "Go to East AFB. It's your only chance – fly a bingo profile – go!" *Number 3 heard the transmission and asked for an initial vector.* Number 1 responded "Zero niner zero."

A short recap at this point: No. 1 is on deck; No. 2 is on final for his second attempt; No. 3 is on a bingo for East AFB; with No. 4 ahead at some undetermined distance. Number 2 saw the ground on his second approach, but was unable to locate the runway. He asked for a vector for East AFB and quickly figured the fuel required. Fuel required for 130 miles – 3.3 VFR, fuel onboard 2.2. Number 2 then requested vectors for one final approach at Big State and if unsuccessful, a vector to a clear area for ejection. The crew of No. 2 planned for a TACAN approach with gear held until the last portion of the approach. When asked if there were any holes in the clouds near the field through which No. 2 might break out, *Approach responded, assuring the crew that the runway was 300 feet wide with no holes in it!* The crew requested flares if possible, but none were available. At 1/8 of a mile they spotted the field, eased over some powerlines, and landed with 800 pounds of fuel remaining. Two down, two to go.

As No. 4 climbed, he gained a TACAN lock on East AFB of 105 miles with 1800 pounds of fuel remaining. He continued to fly the prescribed bingo profile, leveling at 36,000 feet. At 55 miles he started an idle descent with 900 pounds remaining. Flying mostly from TACAN information, No. 4 spotted the airfield at 7 miles. (Weather: 3000 scattered, 7 miles visibility.) He held gear and flaps until on final and landed with 400 pounds on the counter and zero on the tape. Three down, one to go.

The section leader (No. 3) had not been so lucky. As No. 1 transmitted for everyone to bingo, No. 3 was 10-15 miles *west* of the field, in the opposite direction from East AFB. Turning to follow No. 4, he asked approach for a heading and range to the alternate. Approach came back with a Center frequency. Again he asked for a vector, got no response, and switched to Center.

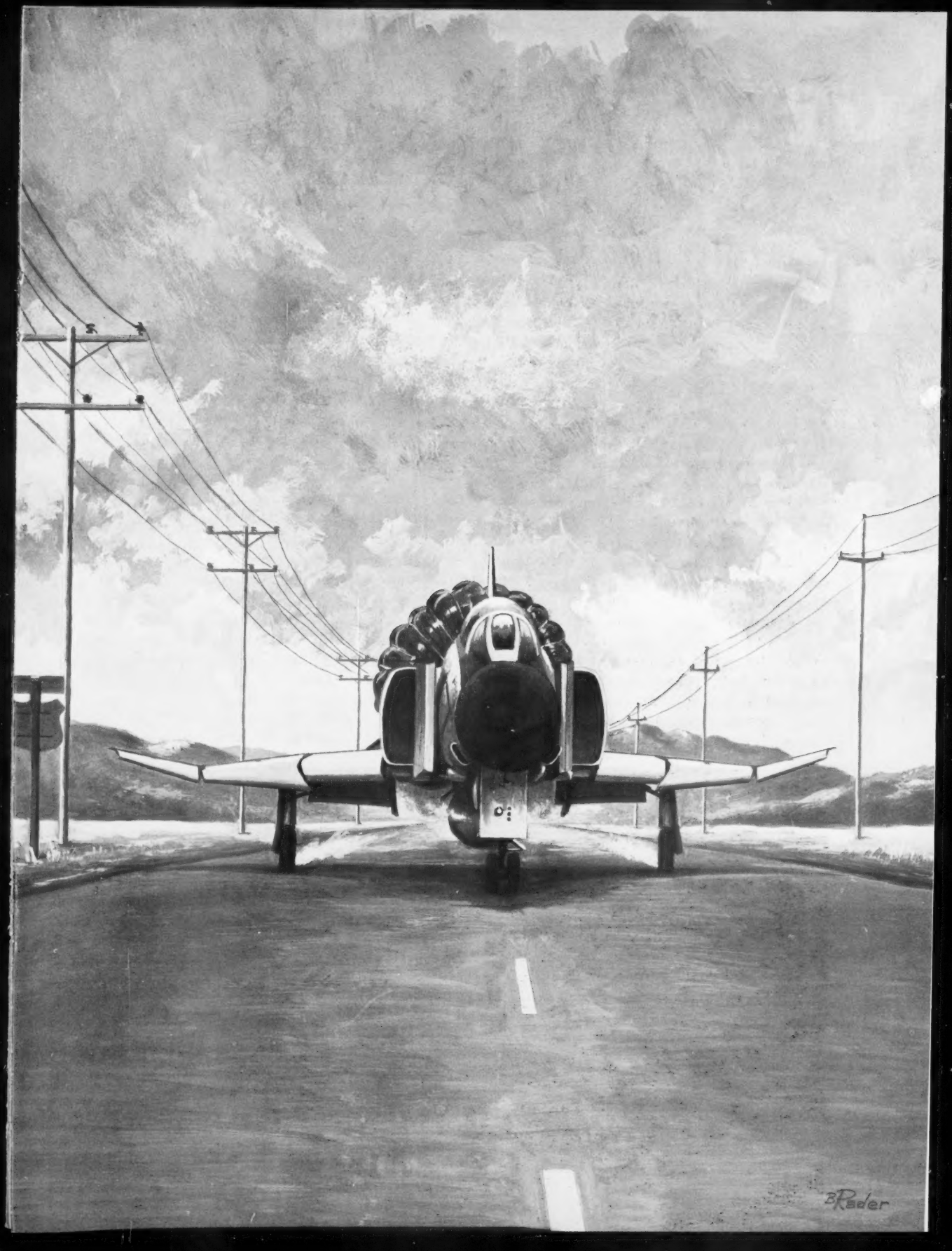
Declaring an emergency, he asked for vectors to any suitable airfield in the vicinity. Center never gave a radar vector to No. 3, although one controller was painting his IFF squawk until he descended out of radar coverage. Center estimated him at 20 miles from Small Town Municipal Airport on its 330 radial, and instructed him to turn to 120 and switch to Small Town radio. Hearing No. 4 ahead of him call 85 miles to East AFB and reading 1600 pounds of fuel remaining, plus not knowing his position nor having the range to any field, the pilot of No. 3 began an idle descent through the broken layer below. He spotted a small town, and hoping for an airfield, turned in that direction. The town was not equipped with an airfield. His narrative follows:

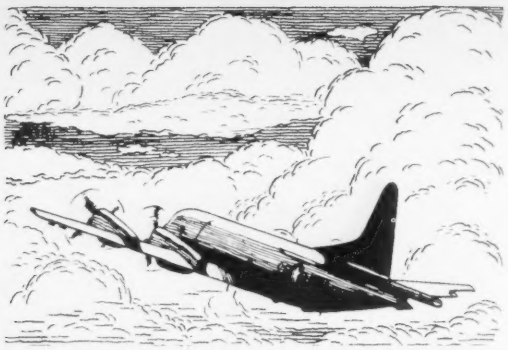
"We turned to look for an airfield but realized that with 500 pounds, time was growing short. I spotted a highway with a long straight stretch. I could hear Small Town radio calling on Guard and attempted a transmission back, but got no answer. I lowered the gear and flaps and made an approach to the highway. My main concern was traffic. As we dropped to about 100 feet AGL I saw some cars down the highway, which was only two lanes wide. I couldn't tell which direction they were going and I thought there was a chance of hitting them, so I waved off. As I turned downwind, I raised the gear and flaps. I had instructed my crewman during the idle descent how we would eject, so while downwind I told him if the engines started to unwind, we would get out. As we turned through the 90, I could see the highway was clear.

"I dropped gear and flaps, lined up on the highway centerline, and descended through the powerlines on both sides of the right-of-way. We touched down close to onspeed. My main concerns were traffic interference and staying in the middle of the 42-foot-wide roadway. I saw no cars coming, so I deployed the drag chute and rolled. As we reached taxi speed, we rolled by a U.S. highway sign.

"I transmitted on Guard that I was on the highway and that the plane was OK. I taxied to the right side of the highway, folded the wings, and shut down with 200 pounds showing on the counter, and zero on the tape. We chocked the aircraft with boards and secured the drag chute. Four down – safely – none to go."

Local authorities quickly arrived and provided traffic control and security until personnel from East AFB arrived. The next day, fuel was brought to the scene along with starting units. After a FOD walkdown of the highway, the plane was started, traffic halted, and personnel cleared away. The squadron commander flew the light-loaded *Phantom* off the highway and to the AFB, 50 miles distant. No damage was done to the highway or surrounding property. At East AFB, the remaining aircraft were refueled and flown to Homebase.


B Reder



SAFETY

VXN-8 (Oceanographic Development Squadron EIGHT) is the Navy's only squadron devoted solely to airborne oceanographic research. VXN-8 has now flown over 7 years and more than 40,000 hours accident-free, worldwide, since commissioning. This outstanding record was made possible by careful attention to detail in mission planning, flight operations, and maintenance evolutions. There is no such thing as a routine operation in VXN-8, and all squadron personnel take extreme pride in their endeavors. The sun never sets on safety in VXN-8.

The squadron's research mission takes its crews and aircraft all over the world. In 1974, VXN-8 had flights over both poles and across every line of latitude and longitude on the globe. To perform assigned missions, the squadron operates three unique aircraft: two RP-3As, and one RP-3D. Let's look at some of the special operating and maintenance considerations.

The RP-3D of Project MAGNET is basically a P-3C airframe, but was modified on the assembly line for the airborne magnetic research mission. The ASW equipment was replaced by such things as a vector magnetometer, Omega Navigation System, and a Geomagnetic Airborne Survey System. An additional fuel tank has been installed in the former bomb bay area, and the galley was moved forward to eliminate magnetic influences. The two RP-3As are modified P-3As retrofitted for our work. One is used by Project BIRDSEYE which is an arctic research project. The other RP-3A is used by Project Outpost SEASCAN, primarily an ASWEPS-related research.

The interiors of all three aircraft have been modified considerably. Both RP-3As have the crew's head moved back to the tail and several siesta seats have been added for crew comfort. The RP-3D has been further modified by the installation of additional bunks and ditching stations to accommodate larger crews, plus military and civilian scientists.

Operations. These modifications necessitate several changes in operating procedures used by the flightcrew. Some of the differences between P-3 and RP-3 can be insidious. For example, the effects of equipment loading (which varies from mission to mission) must be carefully considered in preflight planning due to CG limitations. At maximum gross takeoff weight, the P-3 CG limits are from 23 to 32 percent MAC.

Project BIRDSEYE aircraft normally operate with a takeoff CG between 28 and 30.5 percent. It should be

around the world

By LCDR H. H. Broderson
VXN-8

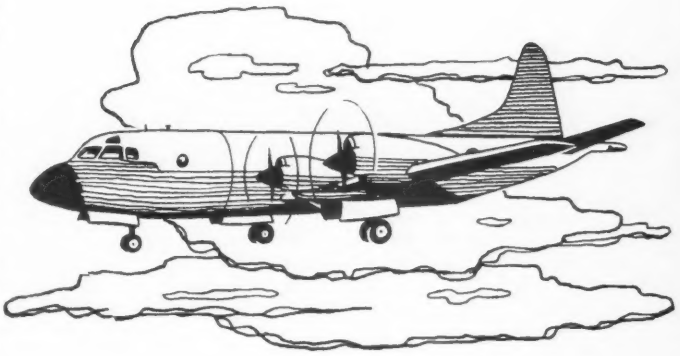
noted that the area between 30.5 and 32 percent MAC is a caution area, and the P-3 NATOPS manual contains explicit warnings relating to control force characteristics in this range.

Project MAGNET RP-3D, on the other hand, due to the extra fuel tank, normally operates at the forward end of the CG limit, between 24 and 26 percent MAC. The RP-3D NATOPS Manual warns crews that when there is fuel in tank No. 6 (the extra fuel tank in the bomb bay), crewmembers must use alternate aft ditching boards, in the extreme aft end, and remain in these seats until 20 minutes after takeoff. Four forward seats cannot be occupied during this time.

Inasmuch as many of VXN-8's deployments are veritable "baggage drills," requiring multiple on-and-off baggage loads, and since climatic extremes within a single deployment can necessitate a large variety of clothing and survival gear, it can be seen that close attention to the CG is required of flightcrews. It is also vitally important for crews to realize that they may be operating the RP-3 at either end of the CG spectrum at any time, including local training flights.

Weight is another aspect that must be closely examined. The RP-3D, similar to the P-3C, has a max gross takeoff weight of 135,000 pounds and a design gross landing weight of 103,880 pounds. Landings up to 114,000 pounds are allowed, but an overweight inspection is required after every 10 overweight landings. The RP-3A limits are the same as the P-3A – 127,500 pounds max gross takeoff and 91,320 pounds max for normal landings. Mission planning becomes critical because every operational mission operates at or very near the maximum allowable zero fuel weight – defined as the aircraft gross weight with no usable fuel. At remote bases such as Keflavik where minimum overhead fuel is 18,000 pounds, it's very tempting to allow a small fuel fudge factor and thus land over normal design weight.

A further consideration is the great care that must be taken in crew selection. A balance between mechanics, technicians, and observers must be maintained. Most deployments, even those over 30 days, are made with only six or seven enlisted crewmen. A crew must be self-sufficient because the crew that flies also is the crew that maintains.



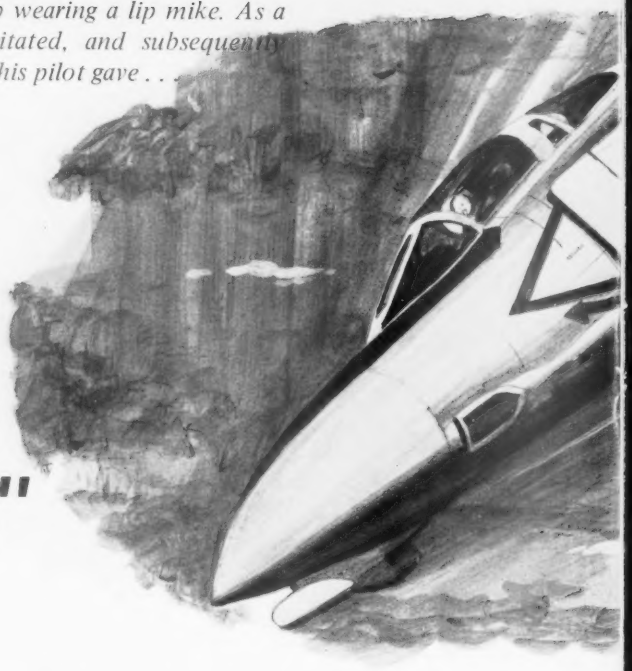
Maintenance. There are precautions which must be taken during maintenance. For example, if work on the RP-3A involves removal of the APU, an engine, or a prop, it is vitally important to tie down the nose. In VP squadrons, this is done as a precaution, but for us it's necessity. It is also necessary to restrict the number of people in the aft end of the RP-3A under certain conditions and to ensure the aircraft is tied down on the line in any kind of wind conditions.

Much of the equipment installed in the RP-3 is contractor supplied and maintained. Therefore, many civilian workers are found on the line and in the aircraft. Needless to say, they must be made aware of the hazards of the flight line and hangar deck and must meet the same high standards of workmanship, conscientiousness, and safety awareness as our crewmen. It is an educational process more than a pure maintenance function, but it pays off. A civilian will not necessarily realize he cannot tap a pitot line to get some air to his equipment. Don't laugh. It has happened. Our QA is *by the book!*

While some of the safety considerations discussed are unique to our squadron, the basic principles of safety that have enabled us to operate accident-free are common to all squadrons. Thorough flight planning, good maintenance, adherence to NATOPS, effective training, and sound professional judgment make for safe operations in any community or in any location. ◄

The F-4 pilot disobeyed a direct order to stop wearing a lip mike. As a result, he apparently became hypoxic, incapacitated, and subsequently crashed, killing himself and his RIO. It looks as if this pilot gave . . .

"Lip Service to Oxygen Masks"



THE pilot and RIO were scheduled to perform a maintenance acceptance check – launching at 1530. After the check was completed, they were to engage a section of F-8s from another squadron for AIC and ACM training.

Briefing for the flight left something to be desired. "Not properly conducted," the squadron CO described it in his endorsement to the AAR. One of the pilots took a telephone call at the duty desk at a critical time during the brief. The F-4 RIO missed the briefing entirely because nobody told him about it. One of the F-8 pilots was 10 minutes late.

As events were later reconstructed by witnesses, the F-4 crew reviewed discrepancy records in maintenance control but did not ask any questions about procedures for the acceptance checkflight. The pilot and RIO walked to the aircraft together and made a rapid (2-minute) preflight inspection.

As the aircraft left the line, the pilot was seen wearing a grey lip mike. He was still wearing the lip mike when the aircraft left the warmup mat to launch for the ACM area.

Immediately after takeoff, the F-4 was vectored by GCI toward the F-8s. At approximately 5 to 7 miles, the *Phantom* called "tally ho and switching."

The F-8 pilots at FL250 and in a port turn, saw the F-4 low at their 7 or 8 o'clock position, climbing in a port turn. All three aircraft remained in port turns until the F-4 leveled his wings on a heading of approximately 270 degrees, slightly nosedown, and accelerating in full afterburner to an estimated speed of Mach 1.1. Four to 5 miles ahead of the F-8s, the F-4 climbed steeply toward the sun in an oblique loop or pitchback maneuver.

One of the F-8 pilots spotted a contrail at his 10 o'clock position. Then he sighted the F-4, 60 to 80 degrees nosedown, no smoke (indicating full afterburner), in stable flight, and accelerating rapidly. Over the UHF, one of the F-8 pilots made three calls to pull up. Then they heard three high-pitched screams to pull up, believed to be from the RIO under "G."

No ejection was observed. Just before the F-4 entered the clouds at 2000 feet, the F-8 pilots saw white smoke around the cockpit area, thought to be the RIO's canopy shattering on jettison. The aircraft crashed into the sea, leaving only an oil slick and what looked like green dye marker visible from above.

Investigation centered around three areas: the pilot, the aircraft, and the aircraft's life support systems.

What about the pilot in this accident?

The pilot had the reputation of being an excellent stick and throttle man. A graduate of Navy Fighter Weapons School, he was the squadron LSO and conventional weapons/tactics training officer. He had performed a maneuver closely resembling the profile flown that day many times, and had never experienced any problem or disorientation.

He was described as "an extremely aggressive pilot

who, at times, was impetuous in his airmanship." In the preceding 6 months, he had been grounded twice – once for repeated overstresses on aircraft and once for improper takeoff technique.

His squadron CO had prohibited the use of lip mikes in squadron aircraft, yet the month before the accident, the pilot had to be given a direct order by his ops officer to remove his lip mike. The day before the accident, however, he was again observed in flight with a lip mike, although he later replaced it with his oxygen mask. Because of separate bingos and cross-scheduling of the flight leader that day, the investigation report states, the flight leader had no chance to follow up on the violation.

This was the pilot's first functional check or acceptance flight. He did not receive any special instruction or briefing for the mission, and reportedly, he asked no questions. *(There were no directives governing acceptance flights for transferred aircraft in either NATOPS or naval aviation maintenance publications at this time. – Ed.)*

And what about the aircraft?

Although the aircraft had a history of overstress, all probable overstressed areas were inspected as part of the squadron acceptance check. The high number of previous overstresses was not considered to be a factor in the accident. The board concluded that the aircraft was in sound structural condition.

There had been no oxygen discrepancies or control system discrepancies in the previous 90 days. Nevertheless, in a recent 2½-month period, the cabin pressurization turbine had been replaced four times. Aircraft records, however, indicate that cannibalization rather than failure precipitated these replacements. The functional checkflight a few weeks before the accident verified normal operation of the pressurization system at FL400. Also, a few days before the accident, the pressurization turbine checked 4.0 during a low-power ground acceptance check.

What about the aircraft life support systems?

The investigation board made two points here.

- Early in the flight, the F-4 operated for 15 to 17 minutes at 15,000 to 20,000 feet. If the cabin pressurization system was inoperative at this altitude and the pilot was not breathing oxygen, his useful consciousness time would be about 30 minutes. If, after 17 minutes at this altitude, the aircraft was flown to FL430, from which the pilot began his descent, he would probably be unconscious on reaching FL430. A member of the board flew the oblique loop profile, and the time spent above FL400 was 15 to 20 seconds. The time required to perform the entire loop was 60 seconds.

- If the cabin pressurization system operated normally until the pilot applied high G forces to commence the oblique loop, and he was not wearing an oxygen mask, he would have become unconscious passing about 35,000 feet in his descent. This is based on the board's verification flight in which the cabin pressurization turbine was secured at commencement of the oblique loop.

No one observed flight maneuvers or aircraft disintegration during descent. This rules out catastrophic aircraft, engine, or control malfunctions, the board said. The RIO's frantic but clear radio transmissions indicate that explosive cabin depressurization probably did not occur. Given the pilot's medical history, medically-caused incapacitation is unlikely, the investigating flight surgeon stated. The most probable cause of the accident, the board concluded, was pilot incapacitation due to hypoxia or sudden incapacitation of unknown origin.

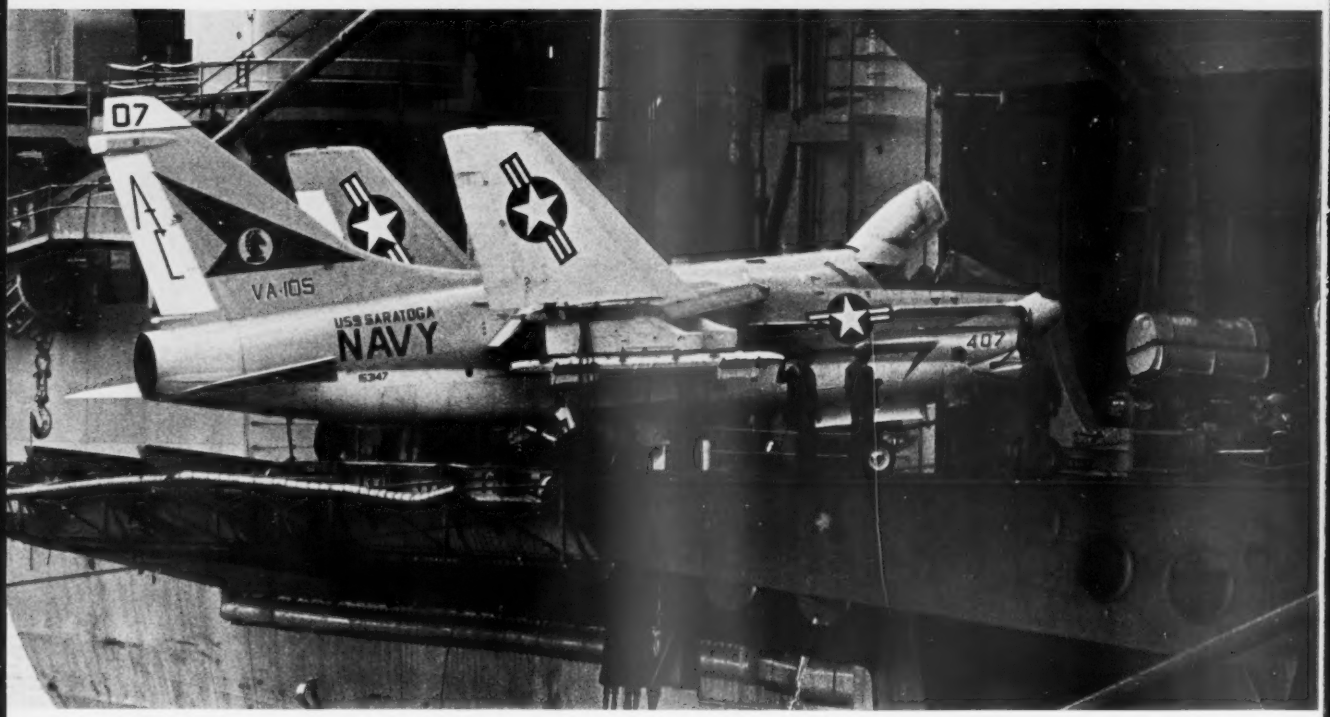
The flight surgeon sums up the problem:

"The fact that aviators fly in a configuration they feel comfortable in versus what is safe or double-safe in the case of hypoxia prevention is a gap that needs closing in naval aviation."

Until such time that an oxygen mask and helmet with improved visibility, comfort, and mobility comes on the scene, it makes sense to use what we've got now *(and use it properly – Ed.)*. Stay with it until something better comes along, and *stay alive* to see it. ◄

Objectives in Carrier Qualifications:

A REBUTTAL



SINCE the advent of peacetime and a rational pace to military life, training has become foremost in the minds of those responsible for the combat readiness of naval aviation. One of the most arduous tasks that an aviator can perform is a carrier landing. It is also one of the most expensive tasks to accomplish since it requires a considerable commitment of manpower and resources, namely, aircraft and aircraft carriers. Any idea that can save money and resources is looked upon with great approval. Such was the thrust of a recent APPROACH article by CDR James H. Flatley, III (SEP '74).

CDR Flatley's approach to carrier qualifications is a new and refreshing idea with much merit. However, the broad acceptance of this concept in all phases of CQ training should be taken with caution. If the only objective of CQ training was exposure to the ball (and sometimes that is all that may be required), touch-and-go landings would certainly suffice. But, let's use the analytical approach and see what objectives we desire in initial and refresher qualifications. What training does an aviator embarked aboard a carrier need? Going back to basic roles, what do we wish to do with a carrier and its embarked air wing?

The aircraft carrier – its utility, its vulnerability – has been bandied about by everyone from congressmen to mess cooks. The primary role remains that of a fast mobile attack platform, be it against sea, air, or land targets. Its primary protective shield and offensive weapon is the air wing. The CV's survival is integrated with the ability of aircraft to defend the task force. In order to do this, aircraft must be launched, recovered, and replenished quickly. The amount of coordination required to accomplish this boggles the imagination. Fuels, ordnance, deck handling, maintenance, catapults, arresting gear, radar, etc., must all be able to meet their commitments without serious fault or the offensive/defensive posture falls short.

So what are the goals of initial or refresher qualifications? Flightcrews and deck crews must be highly trained in *all* procedures concerning shipboard operation. This includes all the mundane but vitally necessary functions that *safely* catapult, arrest, and move aircraft on deck and below. The goal certainly is not limited to "safe arrestments." (Nearly 60 percent of carrier associated accidents happen *ahead* of the ship.) In order to function efficiently, the operation must be expeditious *and* safe.

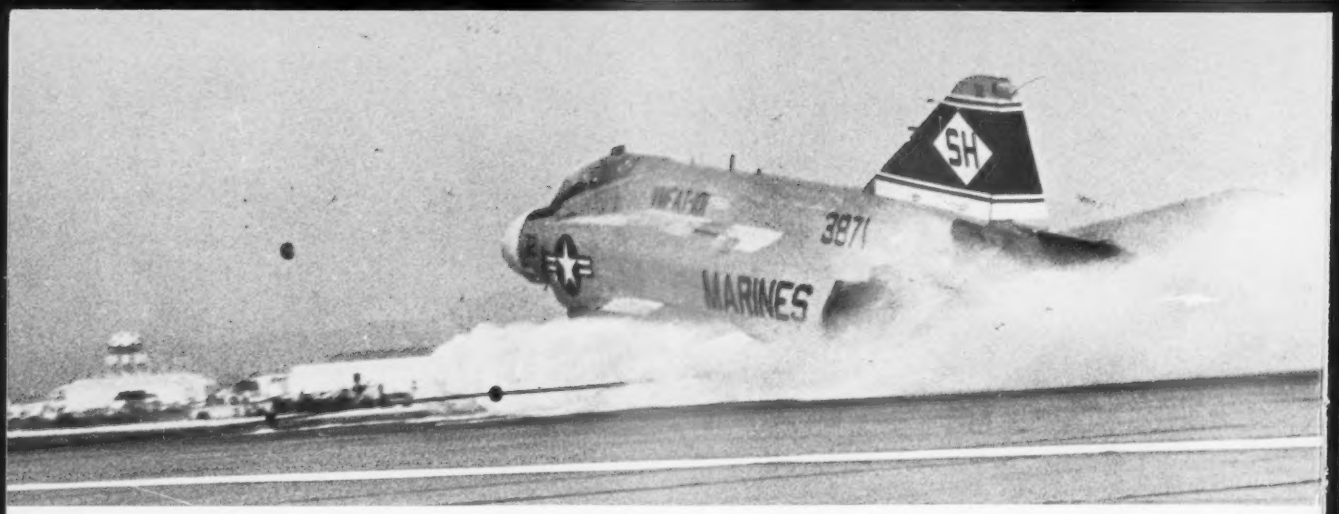
Although training ship personnel is an important part

By LT T. V. DeMarino
VA-122 CQ Phase LSO

of this evolution, for the sake of simplicity, just consider the pilot. In the initial qualification, every aspect of carrier operations is new, and little is self-evident to the unindoctrinated. There is no training device or method that totally simulates the shipboard environment *(water hours* in the BOQ might be a possible step in the right direction). Some communities now have sophisticated simulators to aid in teaching procedures for marshal, CCA, ACLS, and various airborne emergencies. Field carrier landing practice has long been employed to teach elementary ball control. But there is no trainer to teach a pilot to raise his hook, fold his wings, hit nosewheel steering or brakes, add power, and get clear of the foul line. There is no effective simulation for catapult hookup, director idiosyncrasies, the raw violence of a cat shot, or a hundred other situations that arise in the carrier environment. This is taught and learned only by experience in "working" a deck. A touch-and-go exercises so little of the total task that its use must be limited to pattern and scan refresher for currently proficient aviators. (A back-in-the-saddle refresher after a midcruise inport period would be a classic application.)

The question of "how much is enough" is immediately raised when specific training objectives are realistically looked at by those responsible for funding. The completion rate of "nuggets" on their first try in the RAG is an indicator that too much has been cut out from an already meager syllabus for today's complex aircraft. When budget cuts come along, airmanship skills tend to take second fiddle to the manipulation of electronic systems. Limiting on-deck procedures in this environment can only degrade safety and efficiency in training. The qualification criteria in the LSO NATOPS were not arrived at overnight. There is sufficient leeway built into the instruction that LSOs and others responsible for the safety of the carrier evolution may adjust to the individual need. The rules are made to protect the pilot from himself and others who would overtax him in an attempt to expedite "operating."

We have a need to train *all* hands in the total carrier environment. To disregard traps as an index of experience and to substitute touch-and-go landings for traps denies the primary objective of training. Touch-and-go landings train a pilot to do touch-and-go's. Were that the objective, we could qualify him at the field. In order to continue our quest for a zero-accident rate with combat readiness, it is imperative that initial and long turnaround refresher qualifications include the whole evolution, not just a minimal part. To meet the objectives of a crack fighting force with due regard for the safety of its personnel, let's not change for the sake of change. CDR Flatley's ideals have great merit in augmenting carrier training objectives, but they will not serve as a replacement for the type training that we now use.



ACFT	LANDING CONFIG.	RUNWAY FOAMED	A-GEAR USED	FIRE OCCURRED	ACFT DAMAGE	PERSONNEL INJURY
F-4J	SMLG UP	YES	YES	NO	SUBSTANTIAL	NONE
F-4B	NLG & PMLG IN TRAIL	NO	HOOK MISSED	NO	DESTROYED	1 MAJOR
F-4J	SMLG UP	YES	UNK	NO	MINOR	NONE
F-4B	PMLG UP	YES	YES	NO	MINOR	NONE
F-4B	PMLG UP	YES	YES	NO	MINOR	NONE
F-4B	NLG UP	YES	NO	NO	MINOR	NONE
F-4N	ALL UP	YES	NO	NO	MINOR	NONE
F-4B	PMLG UP	YES	YES	NO	LIMITED	NONE
F-4B	SMLG UP	YES	YES	NO	NONE	NONE
F-4B	NLG UP	YES	UNK	NO	LIMITED	NONE
F-4J	NLG UP	YES	UNK	NO	LIMITED	NONE
F-4J	NLG UP	NO	YES	NO	LIMITED	NONE
F-4B	PMLG UP	UNK	YES	NO	LIMITED	NONE
F-4J	PMLG UP	YES	YES	NO	LIMITED	NONE
F-4J	ALL UP	YES	NO	NO	NONE	NONE
F-4J	PMLG UP	YES	YES	NO	LIMITED	NONE

F-4 INTENTIONAL GEAR-UP LANDINGS

CAPT Dave Seder, USMC, and his RIO, CAPT George Sweeny, USMC, VMFAT-101, MCAS Yuma, took off on a functional check flight in an F-4J. Everything went normally until the landing gear handle was lowered. Indicators showed that the left main landing gear had not extended.

Numerous attempts to lower the left MLG proved fruitless. CAPT Sweeny informed the tower of the problem and contacted his squadron for assistance. Another squadron aircraft rendezvoused with him and confirmed that the gear was still up. When emergency attempts to lower the gear pneumatically were unsuccessful, the aircraft was directed to a local target area to jettison all pylons in preparation for a gear-up landing.

Returning to the airfield, CAPT Seder made practice

CAUSE FACTORS	REMARKS
(1) Improper O-ring caused utility hydraulic failure. (2) Corrosion in emergency actuating cylinder.	(1) Aircraft finally landed on third attempt. On first touchdown, C/L tank ruptured, streamed fuel; on second attempt, arresting gear cable snapped after 50 feet runout.
(1) Failure of landing gear to lower undetermined. (2) Pilot failed to request assistance. (3) Poor crew coordination.	(1) Aircraft left runway and crew ejected.
(1) Utility hydraulic system failed due to failure of support bracket bolts, allowing ballast to sever line. (2) SMLG uplock shuttle valve in pneumatic line failed.	
(1) Cause of utility hydraulic failure undetermined. (2) Chafing caused hole in emergency pneumatic line.	(1) Squadron safety officer acted as LSO.
(1) Utility hydraulic failure due to failure of hydraulic line where it connects to manifold shutoff valve, at flare under B-nut. Suspect overtorque. (2) Emergency pneumatic line failed from tensile overload.	
(1) Incorrect bolt used in NLG uplock actuator cylinder rod end.	(1) Landed under LSO control. Stopped 5000 feet from touchdown.
(1) Undetermined utility hydraulic system failure. (2) Emergency pneumatic system failed to lower gear.	(1) Aircraft not equipped with wing tanks; pylons retained on stations 1, 2, 8, and 9.
(1) Leak in lower chamber shock strut caused upper chamber to overpressurize, causing PMLG to jam up.	
(1) Undetermined (unreported) material failure of utility hydraulic system and emergency pneumatic system.	
(1) Utility hydraulic system failed due to fatigue crack in bellmouth hydraulic line. (2) Emergency pneumatic relief valve stuck in open position.	
(1) Incorrect bolt installed in NLG uplock cylinder.	
(1) Air in utility hydraulic line. (2) Pneumatic leak on down side of flap actuator.	(1) No-flap approach, touchdown, arresting gear engagement at 180 KCAS. A-gear parted; aircraft stopped on runway with emergency brakes.
(1) Incorrect bolt installed in CDG door actuating cylinder. Door jammed shut.	(1) Landing in E-28 gear, at 32,000 pounds, 135 knots, under LSO control.
(1) Utility hydraulic system failure due to ruptured line. (2) Cause of failure emergency system to lower gear unknown.	(1) Landed at 33,400 pounds, 150 knots, 20 feet short of A-gear, under LSO control.
(1) Utility hydraulic system failure due to rupture at bend in line. (2) Emergency pneumatic line compressed by clamp overtightening.	(1) Landed under LSO control.
(1) Material failure PMLG door cylinder assembly.	(1) Landed under LSO control.

Chart of F-4 Intentional Gear-up Landing Mishaps
FY-69 thru Feb 1975

approaches while the runway was being foamed. With 800 pounds fuel remaining, CAPT Seder executed a flawless straight-in short field arrested landing (see photo).

The outstanding airmanship displayed by the aircrew in this potentially serious emergency resulted in only limited damage to the aircraft; however, it was not a unique performance. Naval Safety Center records show that this mishap is only the latest of 16 similar mishaps which have occurred to F-4 aircraft since the beginning of FY-69 (see chart). This statistic is cited in order to provide F-4 aircrews and maintenance personnel with information on the causes of landing gear problems and to show what has been the past result when aircrews have been forced to land with one or more landing gear up.

In the beginning, it was hoped that common cause factors in these mishaps could be identified. It was determined that all failures involved material failure/malfunction (with such failure being personnel induced in seven cases), but no trend was identified. Three of the mishaps were caused, however, by installation of incorrect bolts which failed in operation. (For further information, see the article "For Want of a Bolt" in the OCT '73 issue.)

The pilot was listed as a cause factor in only one of the mishaps. Material failure prevented the gear from lowering, but the pilot was cited for his failure to request assistance prior to landing and for inadvertent violation of NATOPS in flaps management. This mishap was the only one in which the crew ejected after landing and the only one in which any injury (other than minor) occurred.

In general, the aircrews of the 16 aircraft involved demonstrated outstanding airmanship and succeeded in holding damages and injuries to the minimum. In most cases they were ably assisted by LSOs, controllers, and crash crews. ◄

Navy Pilots Do It Better, but . . .

Air Force pilots do it by the numbers;
VP pilots do it for hours on end.
Fighter pilots talk about it;
NFOs do it if their gadget's up.
Helo pilots do it vertically;
Airline pilots do it in their shirtsleeves.
Simulator pilots only pretend to do it –
Autopilots do it for you.
Reserve pilots do it once a month;
Tanker pilots do it with long hoses.
Air America pilots do it surreptitiously;
Carrier pilots do it with mirrors.
Kamikaze pilots don't do it too often;
Test pilots find new ways of doing it.
Australian pilots do it upside down;
ECM pilots do it if the electrons are willing.
A-6 pilots do it in bad weather;
A-7 pilots do it when everyone else has failed.
Russian pilots do it behind an iron curtain;
VR pilots do it all over the world.
Hopefully, all pilots do it safely.

(Acknowledgements to RAF *Flight Safety Review)*

Bravo Zulu

CAPT Robert Dwyer, USMC, and
1st LT David Vanesselstyn, USMC
VMFA-251

A SECTION of *Phantoms* launched out of MCAS Beaufort in direct support of a joint military exercise being held approximately 300 nm north.

Approximately 10 minutes after reaching cruising altitude, the wingman, CAPT Dwyer, observed his master caution light illuminate and the utility hydraulic pressure gage fall to zero. He informed his RIO, 1st LT Vanesselstyn, and his section leader. After a visual check by the lead aircraft, an emergency was declared with ATC, and an immediate divert back to homebase was commenced.

During the return flight, the pneumatic pressure gage began to drop slowly. Knowing that eventually this would adversely affect emergency lowering of the landing gear, and having already lost the main system, the crew correctly decided to lower the gear by the emergency method if the pneumatics dropped to 2600 psi. This occurred approximately 40 nm north of Beaufort. Even though the crew followed NATOPS emergency procedures for lowering the gear, the pneumatics immediately fell to zero, and the wheels remained up and locked.

After conferring with Beaufort Approach, the crew switched to "base" frequency and informed their squadron of the double emergency. (The squadron had been alerted to the crew's original utility hydraulic failure, and an LSO was already headed for the runway.)

Fuel was not a problem; the aircraft was configured with an external centerline tank.

With the help of the Squadron Operations Duty Officer, the crew reviewed and attempted all methods of lowering the gear, but a visual check with Beaufort Tower confirmed that this was to no avail. Fortunately, the flap pneumatic accumulator bottle had not been affected, and the flaps were successfully lowered.

It was established that a nonarrested landing on a foamed runway would be necessary and that the nearest facility that could provide the required amount of foam was Charleston AFB, some 40 nm northeast. Charleston was alerted, and the aircraft headed northeast followed by the LSO, CAPT Scotty Dudley, USMCR, in the already alerted SAR helicopter.

The crew orbited Charleston AFB while 4000 feet of foam was expeditiously laid by the crash crew. Initially, it was discovered that no UHF-equipped vehicle was available for the LSO's use. Quick thinking by the SAR pilot, CAPT John Gale, USMC, in positioning his helicopter adjacent to the touchdown point, however, enabled the LSO to talk the pilot through one low approach for a lineup check and then to a final wheels-up landing.

The *Phantom* touched down 400 feet into the foam. The drag chute was deployed, and both engines were secured in accordance with NATOPS. During deceleration, the centerline tank collapsed, and the aircraft settled onto the two missile pylons located on the inboard stations. The aircraft remained on centerline, stopping 20 feet from the end of the foam. The aircraft incurred negligible damage.

Investigators concluded that the failure of a hydraulic line and then a separate failure of a pneumatic line was the cause of the mishap.

COMNAVSAFECEN commends not only the crew of this aircraft for their superior airmanship during a double emergency and a subsequent hazardous wheels-up landing, but also the LSO, SAR pilot, Charleston AFB tower and crash crew, and the local air traffic facilities.

Well Done!

The Disease of Crewman Complacency

By AE1 H. W. Garner
HC-1

I AM not the saltiest rescue aircrewman in the Navy, but I have accumulated more flight time than most HACs with whom I fly. I take my job seriously and serve with pride and dedication. I participate in a wide variety of training activities in preparation for that one glorious moment when I have the opportunity to save someone's life.

SAR lectures, SAR equipment usage, and advanced first aid are some of the subjects in my squadron's training program. Pilot SAR briefings (with other squadrons) are sometimes scheduled, and I eagerly await the chance to talk SAR to these prospective survivors. I describe techniques and procedures used by today's modern SAR teams in an effort to build the pilots' confidence, so that their chances for survival increase enormously, compared to a few short years ago. We are prepared and capable of rapid response.

Required reading of a variety of publications, messages, instructions and notices, pamphlets, and magazines is constant. While reading APPROACH, I added a new word to my vocabulary – complacency. I remember thinking to myself – there's a good word for

all pilots to know! I'd sure hate dying or having my body damaged because one of them suffered from complacency. How would my epitaph read? "Here lies super SAR, killed by a pilot's complacency." I sure hope all those HACs, 2Ps, and Sierra Hotel sticks read and comprehend.

It didn't enter my mind that complacency would ever strike me. However, here's an actual episode that hit me right on the old sniffer. The call: "Man overboard! We have a man in the water!" The old adrenalin starts to flow. My body wants to react, but my training and experiences are ingrained. The pilots are busy running through the checklist. A little commotion erupts behind me as the second crewman, the swimmer, gets my attention by shouting, "I don't have my fins!" What can you say at a time like that except, "Sorry about that!" Some poor dude is out there in the water, in trouble, and it's too late to inventory your swim gear. Sure, the HAC is responsible for inventorying all the crew's gear, but most crew chiefs feel a personal responsibility to ensure readiness of themselves and their second crewman.

War has been declared – a private kind of war, with a strange unification between the rescuers and the man in the water. Their common enemy is time. The SAR team has a tendency to hurry, but they know they can only expedite at a safe speed. The survivor must wait, hope, and most importantly, assist the team in finding him. Time is of the essence, but proven procedures must be followed.

Finally the radios are turned on and the tower explains the situation. Rotors are engaged, clearance to lift is given, and we transition over the deck edge. The pilot passes the word to rig the hoist as I unstrap to go aft. I give the helo a quick security check and the swimmer finishes his preparations for entering the water – minus his swim fins.

The search pattern has already been initiated by the pilots and the tower relays a message that the rescuee might be mentally unbalanced. Great! The pilot rogers the message from the tower and asks us if we had heard. We replied affirmatively. We continue to search while time passes – too much time. I begin to think we've lost him. Suddenly the pilot sees a cigarette package floating, may be a clue, and we swoop down to investigate. A head appears. *The guy has been surface diving to evade us!*

I have the survivor in sight and start directing the pilot toward him while simultaneously lowering the swimmer. The swimmer is hanging above the survivor and continuing down the wire. The survivor is shouting at him, trying to wave him away. I try to tell the pilot he's drifting back, but nothing happens – no sounds can be heard. My lip mike has quit.

I'd been intending to get a new lip mike for at least 2 weeks. The wiring was bad and it had been intermittent, but I never seemed to take time to get down to the riggers for a new one. I'd been accustomed to the mike wiring during training flights. I knew if I held the cable a certain way I could transmit OK, run the hoist, and key the mike with my left hand. Never fear, super SAR is here.

While I was engrossed with these problems, the swimmer released himself and is in the water – a little too far from where he should have been. However, the finless wonder closes on the survivor and damned if the guy doesn't start swimming away. The race is on, 100 miles out at sea. The swimmer's name is Tiny, but with or without fins, the survivor is outclassed. Tiny overtakes the reluctant rescuee, has a short conversation, and then signals me that they are ready to be picked up. After some difficulties, the two in the water are connected to the hoist.

The difficulties began when I actuated the hoist switch and nothing happened. Like my lip mike, the hoist had been intermittent for the past several weeks. I knew this before we launched.

I reported the problem, dropped my ICS cable, and reached for the emergency override switch above my head on the helo's bulkhead. When I looked down, we had drifted, and the men below were out of sight. There wasn't any use in going hot mike because the problem lay with my equipment and not the aircraft's.

Well, old-mighty-experienced, well-trained super SAR, what now? Hand signals? We had talked about them, but nothing had firmed up. Just then the swimmer and survivor reappeared to my left, but they kept moving and passed out of sight to my right. Damn the ICS, damn the hoist. Sorry, men, but back in the water you go. I dumped them into the ocean.

Idea! I can hold the ICS cable with my right hand and operate the emergency hoist switch on the overhead even though my head would be tilted and my field of vision restricted. Ah so, it worked. I hauled 'em up.

I'll never again think that the disease of complacency is confined to the cockpit. The disease is contagious and can spread rapidly. It can cause injuries and death to both those afflicted and those associated with the afflicted. A cure is possible, however. The antidote is PROFESSIONALISM. Professionalism should have made me take time to get a new mike, make sure the swimmer was fully equipped, and make sure the hoist grip was working. This rescue could have been a tragedy. Instead, it was an unfunny comedy of errors. It definitely was hindered by crewman complacency. ◄

Low, Low Approach

TWO hours and 30 minutes after takeoff for a night instrument training flight, the IP (instructor pilot) took control of the P-3C to demonstrate an ILS approach to the two PUIs (pilots under instruction) aboard. Approach control cleared the aircraft to return to the outer compass locator and commence the approach. The second pilot under instruction was asked to read the abbreviated landing checklist while the aircraft was enroute to the outer compass locator. The checklist was completed down to "landing gear" and held at that point.

Upon passing the outer compass locator outbound for a teardrop approach, approach control had the aircraft extend its outbound leg to provide traffic separation from a helicopter and three other aircraft shooting instrument approaches to the same airport. During this time, the instructor pilot was attempting to obtain visual contact with other traffic, fly the aircraft, and discuss flight director instrument indications and ILS intercept procedures. Upon intercepting the final course inbound, the instructor pilot was told to contact Tower at the outer compass locator. A descent was commenced on the ILS glide slope at the outer compass locator, and the instructor pilot switched to Tower.

While waiting for the tower controller to complete landing instructions for another aircraft, the IP continued to discuss proper ILS technique. Up to this point, the flight engineer under instruction and his instructor were engaged in a discussion about a previous pressurization problem. On short final, the P-3 received landing clearance. The instructor pilot switched to an outside scan, extended land flaps, and commenced a transition to the landing attitude. He experienced, however, an uneasy feeling of being too low, as the aircraft appeared to sink below touchdown altitude.

A waveoff was initiated and full power was applied, but as the aircraft accelerated, cockpit personnel

observed a flash to the starboard of the aircraft. Realizing some part of the aircraft had probably contacted the runway, the instructor requested clearance to homefield. During the return, a check of aircraft handling characteristics indicated the aircraft flew correctly and that the 41-degree coordinator switch and wheels light worked correctly. The flight terminated with a normal landing.

Postflight investigation revealed that the aircraft had contacted the runway on the ECM and LLLTV pods – *the wheels had never left the wheelwells!*

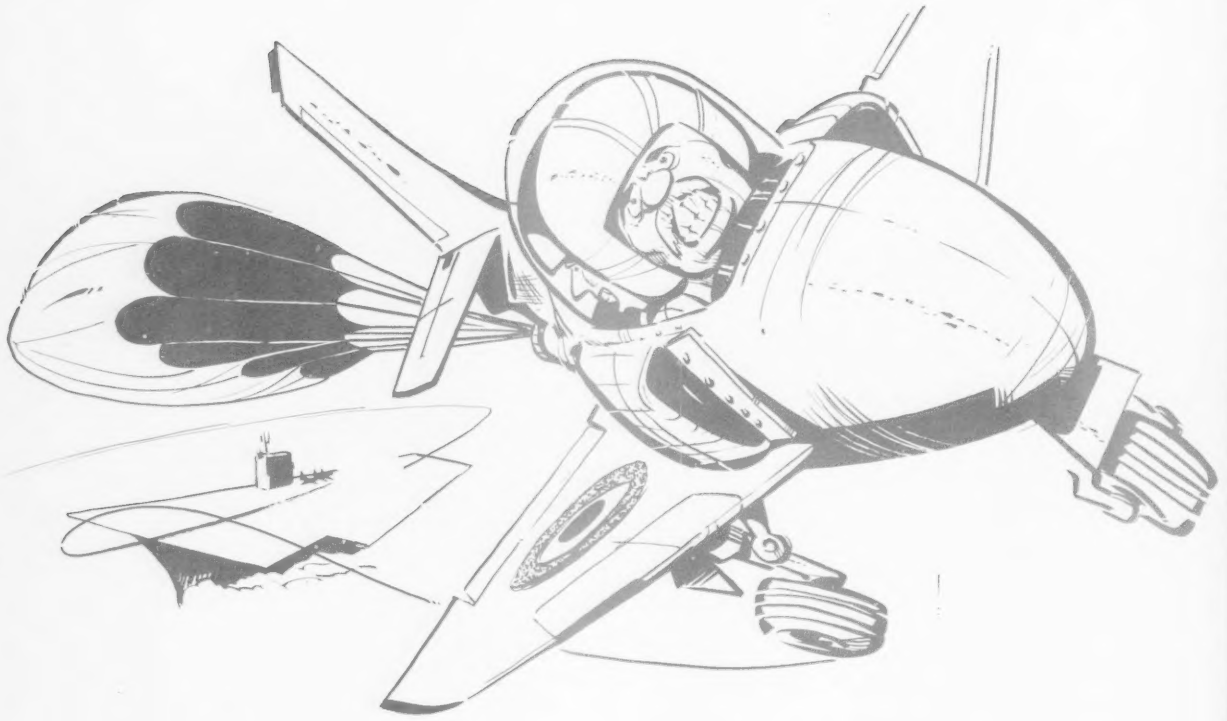
The primary cause of this incident was the failure of the IP to ensure completion of the landing checklist. Contributing factors were the failure of the pilot under instruction in the left seat to act as safety pilot during the approach, and failure of the other pilot under instruction to inform the instructor pilot that the checklist was not complete. Other factors included the lack of a required gear check at civilian airfields, distraction caused by proximity of other traffic during the approach in a nonradar environment, and the flight engineer's preoccupation with a systems discussion which precluded them from noticing that the checklist was not completed, even though this is not their responsibility.

As a result of this mishap, the P-3 "Descent and Landing" checklists have been changed. There now is a "Descent" and an "Approach and Landing" checklist. This change reduces the number of items on the landing checklist and discourages "holding the checklist" prior to completion.

In 1968, a P-3 made a wheels-up pass, but sustained substantial damage when the props hit the runway. The IP in this mishap was much more fortunate. However, as a VP skipper recently said, "Aviation Safety should be the result of professionalism, not quick reflexes."

EMBARKED FLYING

A Parody of the Real Thing



By LT P. J. Hardy, RN
HMS ARK ROYAL

IF the weather is particularly foul today, and a Force 9 gale is raging, I should be performing an aerobatic display off the bow catapult of the HMS ARK ROYAL. What follows is an attempt to tell you of my feelings leading up to, and during a typical display.

Awake earlier than usual (0230 hours because the Senior Pilot always puts me on the first sortie), I jump out of my bunk. This is a mistake since my bunk is 5 feet high off the deck. Nursing my swollen ankle, I hobble to the scuttle (window to crabs) and look out at the weather. Ah! It looks set fair with shrieking winds, low visibility, and 300 feet cloudbase – ideal "goofing" weather.

I dress and have a leisurely cigarette, knowing by the time I reach the heads I shall be sick. Afterwards, a relaxing stroll down to the briefing room, hoping to miss the ghouls that will arrive later.

The met man's forecast of clear skies and calm seas goes largely unnoticed due to the coughing and spitting of the aircrew, and the howl of the gales through the scuttle. The engineering officer confirms that the aircraft is on deck and the boss gives a reassuring nervous tic that all is looking well.

During the briefing, the atmosphere boards on the hysterical. Everyone is twittering, saying goodbye to friends, and the first onlookers have arrived proferring autograph books and inquiring as to your collar size.

The tension increases as I collect my flying clothing and talk to the line chief about my aircraft. I study the

servicing documents for a full minute, then turn the book the correct way up. Amid much clucking and shaking of heads from the onlookers, I sign for the aircraft. Then back to the readyroom for my observer, taking with me a full fisting party. After a small pitched battle, he is dragged screaming to the aircraft.

I glance skywards as I walk out to my aircraft, and trip over an arrester wire. Idly I note the position of the clouds – still in the sky – looks good. Reaching my aircraft, 013, I see my observer has been strapped in and his canopy sealed down. A quick walkaround, a kick of the tires which further inflames my damaged ankle, and I am ready to strap in. This is quickly done, my faithful plane captain gives a "Good luck, sir," and walks away sniggering as I start the engines. Soon both the vital checks are completed and giving enough thrust as I slowly taxi forward into the catapult.

It is difficult to express one's feelings when sitting at full reheat ready for the firing of the "cat." One sees the spectators crowding the goofer's gallery, some making the sign of the cross. The launching officer's green flag is waving above his head, the prophesies of impending doom continue unabated from the rear seat, and I find myself wondering for a second if my brother's offer of a job in a slaughterhouse is still available. Then the catapult fires! An incredible force driving me back into my seat as I hurtle down the track in Britain's fastest fighter. Despite this ferocious thrust, we still sink like a stone off the bow. To the accompaniment of my observer's babbling, I notice the flight deck still some 20 feet above me in my rearview mirror. Smoothly, I bring the control column back to the pit of my stomach, correct the left wing drop with rudder, and climb away. Calmly, I call g-g-green l-leader air-airborne.

All too soon the sortie passes, and despite the rear seat man's pleas to divert ashore to an airfield, and in his words, "Quit while we're ahead," I return to the ship with butterflies doing a tango in my stomach.

Passing over the ship, I bravely call "slot" and turn downwind. To my surprise into a stream of *Buccaneers* coming towards me. Downwind and around final, I allow the speed to bleed off but quickly correct with stall recovery action. Then, lined up on the flight deck centerline, I concentrate in this most demanding of pilot skills – the landing onboard one of Her Majesty's aircraft carriers. The LSO advises me with corrections in a tone similar to the delivery of a tobacco auctioneer, and with a last call of a "little reheat to correct for sink," I cross the end of the ship.

Smashing firmly and smoothly into the arrester wires, I mentally pat myself on the back for one of my better landings. However, a calm shriek from my observer reminds me that I have forgotten to lower my hook. With full afterburner engaged and drag chute deployed, I again sink off the front, repeat the motions described in the launch on turn downwind for a second attempt. This is more successful than my first approach and I thankfully come to a sudden stop in the wires, vaguely conscious of my starboard wheel continuing to careen up the deck into the parked aircraft. A quick pat on the back from the crash crew chief petty officer as he helps us out, signs the aircraft as up, and away to the readyroom for a welcome bottle of brandy.

It's a man's life, I tell ye!

(A tongue-in-cheek look at how it's done "on the other side." Outside of a few strange terms to describe familiar situations, there's not much difference, is there? – Ed.) ◄

Fire and Brimstone

By Doug Hawley

WHAT is your NATOPS officer like? Does he sometimes remind you of a fire and brimstone gospel preacher in the "House of Safety"? Well, if not, he is not what he should be. The real NATOPS officer preaches to save your life as the clergy in the House of the Lord ministers to save your soul. He does not stop until you listen.

Ordained by the RAG through exhaustive checks and instruction, he is well prepared to minister to your needs as a naval aviator. Yes, his bible is the NATOPS manual; no doubt he has given you a copy. He knows it like you should, verse by verse and reference by reference. He has studied all parts of the pilot's gospel from maintenance manuals to safety messages. His work is never done, for he is ordained to rewrite your bible as lessons are learned by others like yourself. Happenstance will find him reaping the harvest of his missionary work in the fields of QA, AT, or AO.

Fear not while he hath thou as a captive audience at AOMs and maketh fire and thunder. He is only trying to maketh thee take the good book to heart. Talk with your NATOPS minister for he can maketh the light shine brightly unto you. The life he is trying to save is yours. ◄

NONAVIATION SHIP WAIVERS

By LCDR M. G. Steen, USN
COMNAVAIRLANT Staff

THE article "Certified?" appearing in the JUN '74 APPROACH contains statements concerning the aviation facility/nonaviation ship waiver program that are misleading. To clear the record, reexamination of the waiver program is warranted.

OPNAVINST 3120.28 established the requirement that all aviation facilities on naval ships operating aircraft be formally inspected as being proper, safe, and adequate. It also charged the Chief of Naval Material and the Fleet Commanders in Chief with the responsibility of administering the certification and waiver programs respectively. Considerable publicity has been given to the certification program since certification represents the standard to which progress in this field is measured.

By contrast, the waiver program has received little exposure since it provides only an intermediate solution for those ships which, for some *valid* reason, cannot meet certification criteria but have a requirement to operate helicopters.

Since the waiver program has received limited publicity, it is quite possible that the forest of procedures involved in obtaining waivers is a common mystery among Fleet helicopter pilots and, if so, this forest deserves defoliation.

CNO determines specific operating requirements for particular ships, i.e., level and class. Guided by Helicopter Operating and Support Facilities Bulletin No. 1B, the NAVAIRENGCEN team formally inspects the

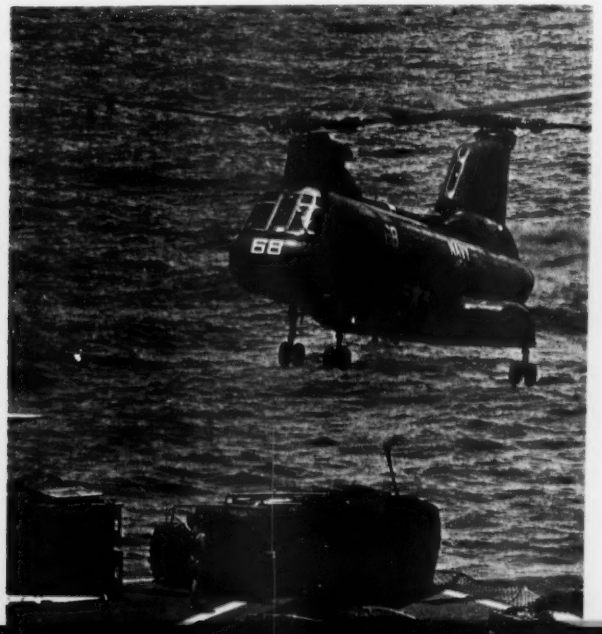
ship's aviation facilities and recommends granting or denial of certification. NAVAIRENGCEN subsequently publishes a formal engineering inspection report which grants certification to the level and class specified by CNO or certifies the ship for a level and class less than that required by CNO, or possibly, denies certification altogether.

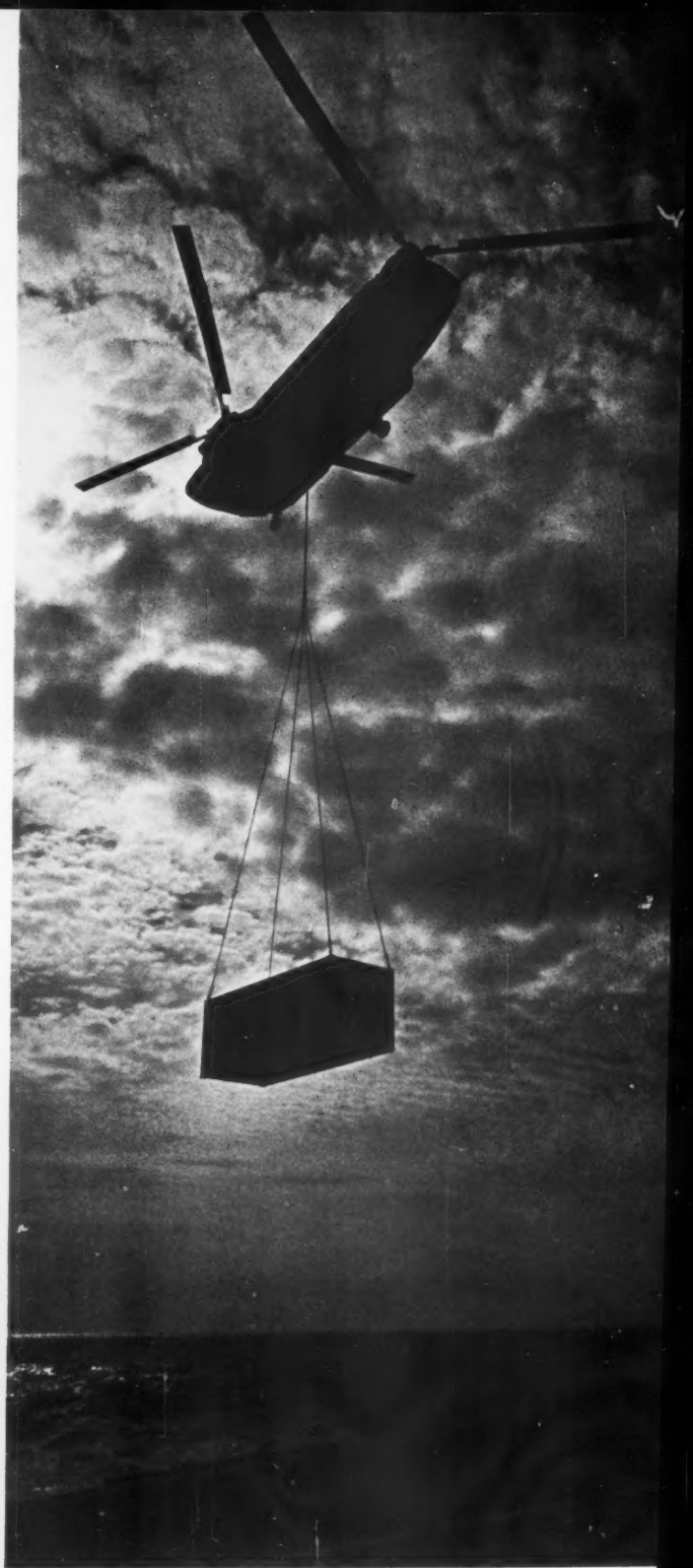
The formal report lists all discrepancies, both safety of flight and otherwise, related to the ship's ability to operate helicopters. A copy of this report is forwarded to commands that would be concerned with helicopter operations aboard nonaviation ships, including helicopter squadrons who routinely operate with a particular ship.

If certification is denied and there is a valid requirement to operate with helicopters, the ship may request waiver. After careful review of the NAVAIRENGCEN inspection report by the Type Commander's staff, the recommendation for waiver, if warranted, is made to the Fleet Commander in Chief. Each TYCOM has naval aviators assigned for duty and these officers review and make recommendations with respect to waivers. In every case, prior to issuing a waiver, the Fleet Commander in Chief solicits waiver recommendations from COMNAVAIRLANT or COMNAVAIRPAC, the technical advisor on aviation matters.

COMNAVAIRLANT or COMNAVAIRPAC carefully reviews the inspection report, paying particular attention to the items concerning safety of flight. If doubt exists as to the nature of a particular discrepancy, liaison is established with the NAVAIRENGCEN Inspection Team and the cognizant type commander.

Discrepancies involving safety of flight are disqualifying criteria for waivers. If no safety of flight





(This article was written before COMNAVSURFLANT became a command. – Ed.)

discrepancies exist, then a favorable recommendation is usually made. In any event, waivers are not ordinarily granted until after the formal report from NAVAIRENGCEN has been issued. This explains why ships could obtain waivers at any time prior to deployment or during deployment. The formal certification status report outlines the actual condition of the aviation facilities in each ship and is used as a guide by the type commander and fleet commander in weighing the contemplated operations against the deficiencies in order to make the waiver decision. If granted, the waiver enables ships to conduct operations with known deficiencies.

Contrary to the impression left by the article "Certified?," many ships are not granted waivers. Frequently, certification and waivers, yes waivers, are revoked because safety of flight discrepancies are reported during the various inspections. True, a waiver doesn't tell the helicopter pilot anything about specific inadequacies of the ship. It does, however, assure him that it has been inspected and is safe to operate from within the constraints and intent of the waiver. Type commanders and commanding officers are responsible for maintaining the ship's standards to which certified or waived. COMNAVAIRLANTNOTE 3500, published quarterly, contains a valid composite listing of all certified/waived ships in LANTFLT. The current CINCPACFLT letter contains the same information for PACFLT.

While the ultimate responsibility of "watching out for his own tail rotor" lies with the helicopter aircraft commander as it always has, there are a number of precautions which can be taken:

- Prior to operating with a ship, review the *Nonaviation Ships Helicopter Facility Resume* and SPLASH. Even though they may not be current, they offer the most comprehensive listing and graphic displays of nonaviation ships available.

- If operating from a particular ship, review and become familiar with the NAVAIRENGCEN *Certification Report.* Each ship should have a copy of this report on file. If it has been lost or misplaced, contact NAVAIRENGCEN Hotline (Autovon 624-2592) for a copy. This report contains an accurate, up-to-date graphic summary of the helicopter flight deck area. Considerable information concerning the aviation facility is contained in this report and it should not be overlooked.

- Review the COMNAVAIRLANT quarterly 3500 note or the CINCPACFLT letter to determine current certification/waiver status. If your unit is scheduled to operate with a ship not listed in the COMNAVAIRLANTNOTE or the CINCPACFLT letter, contact the ship or the ship's TYCOM to see if it has been certified or waived between publishing dates.

- Work through the ship to correct those discrepancies which can be corrected without rework or alteration. This information is also contained in the NAVAIRENGCEN Report.

- Bring safety of flight items to the attention of the ship's commanding officer or your squadron commanding officer.

The certification program was not initiated in an attempt to eliminate the problems and safety hazards exclusively for the helicopter community, but because uncertified decks have placed both aviation and ship personnel in an unsafe environment. The waiver program has effectively bridged the gap between the certified ship and the noncertified ship, which, while inspected, could not gain certification because of extensive periods between overhauls, lack of funds, or other valid reasons.

While helicopter operations at sea comprise some of the most serious safety hazards encountered in naval aviation, past or present, a remarkable safety record has been achieved over a period of years and is documented by statistics held by the Naval Safety Center. To deny that this record was achieved by helicopter pilots watching out for their own tail rotors would be detracting from the aviator who will one day spend his waking hours reviewing waiver requests on a TYCOM's staff. Aviation safety isn't achieved by complacent pilots, be they at sea or behind a desk. ◄

It's a *$*%*&*! No-No

DURING helicopter personnel transfer by rescue hoist, ship personnel of a destroyer escort threw slack cable on the deck as the hoist was being raised. The cable became entangled on a deck cleat and the subsequent strain on the cable rendered it unfit for further use. Personnel transfers were discontinued.

Always keep that rescue hoist cable clear of obstructions.

notes from your flight surgeon

Look in the Mirror

STRICTLY speaking, the following item isn't a "Note From Your Flight Surgeon." It's good, however, so we thought we'd pass it along anyway.

"While deployed aboard USS SHIP in support of a week of carrier qualifications for various 'stiffwingers,' the detachment held a complete flight gear inspection for pilots and aircrew. As aviation equipment officer, I dispensed the called-for amount of static when one of the pilots discovered his Mk-30 pen flare set was missing from his survival equipment. I soon learned that I was a bit premature. With reddened face, I pronounced mine gone also.

"The equipment was replaced before the onset of a lengthy night flying period. But I still start a slow burn when I think about someone with so little sense as to tamper with a pilot's survival gear.

"As in just about everything else dealing with flying, the ultimate responsibility lies with that person you see in the mirror every morning. It's not enough to have the PR take a look in the SV-2 vest each 90-day period when the LPA is checked. And that goes for the condition and/or presence of any piece of flotation or signalling equipment we might have to rely on one of those times when we least expect it.

"When was the last time you personally checked your gear?"

(Signed) Pilferedmouse

(Happens all the time apparently. I recently RON'd at a southern NAS and discovered, while donning my torso prior to the return launch, that someone had "ripped off" my survival knife and shroud cutter. My gear had been left in the TA-4 cockpit – but the canopy had been down and locked. – Ed.)

Four Ducks

IT pays to wear your protective equipment when you're supposed to.

During the navigation portion of a special weapons delivery training flight, an aircraft was struck by at least four ducks. The B/N's side of the canopy was completely shattered and imploded, scattering Plexiglas and bits of birds throughout the cockpit. All communication/navigation equipment was inoperative after the impact.

The two crewmembers were not injured because their helmet visors were down and their oxygen masks on.

The engines were not FODded, so the crew climbed to altitude and returned to base. When in the vicinity of the airfield, the B/N contacted the tower with his emergency survival radio. The tower gave the green light. Landing was uneventful.

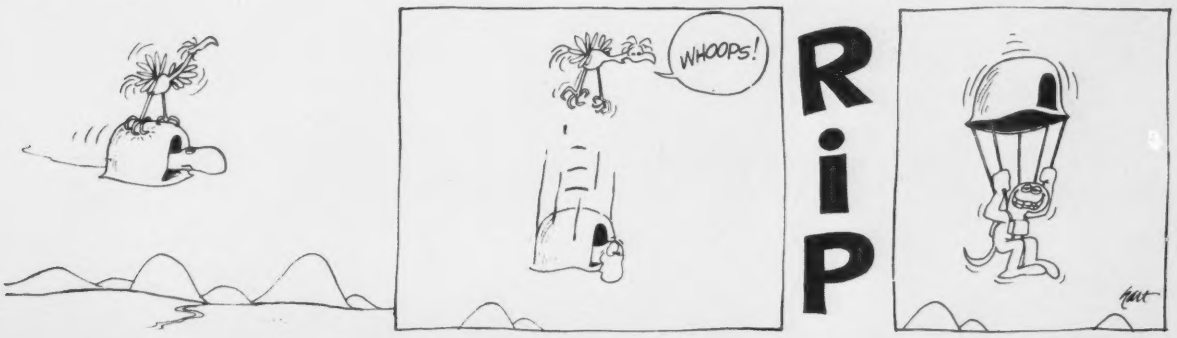
Jettisons Helmet

Pilot: I'm not sure whether I pulled my D-ring, but it seemed like a long time before my chute opened. I'm sure it was only a few seconds though. Opening shock was extremely violent. I looked up. My canopy was fully blossomed.

I remember feeling very uncomfortable with my helmet on. Convinced that I was going to be in the water only a short time and that rescue would not be executed by helicopter, I dropped my helmet in order to get better head movement.

AAR endorser: Previous helo rescues have proven that the helmet affords protection to the survivor's head during hoisting operations. For that reason, it should have been retained. ◄

B.C. by johnny hart



B. Rader

Inadvertent Engine Shutdowns

AN F-4 pilot had a dual flameout after he apparently placed the throttles to OFF during a rendezvous at 15,000 feet. The RAT was deployed but failed to extend. The pilot applied positive and negative G in an attempt to extend the RAT, but was unsuccessful. He tried an airstart anyway, but with no electrical power, a relight was impossible. While attempting the airstart, the aircraft rolled 30 degrees left wing down. Luckily, the abrupt leveling of the wings extended the RAT, which then functioned normally. The subsequent airstart of both engines was successful and a safe landing was made.

This is an example of a problem that has plagued pilots of jet aircraft for years. Unfortunately, not all inadvertent engine shutdowns end happily with a relight, landing, and sea story in the club. In fact, there have been 12 confirmed aircraft losses as a result of inadvertent engine shutdowns. These include three F-4s, three A-4s, one TF-9J, one F-8, one TA-4J, two T-2Cs, and one A-6.

As bad as these losses are, they do not tell the whole story; there have been scores of reported shutdowns in which the pilots managed to get the flame rekindled and make a safe landing. Thus, a problem obviously exists, and if nothing is done to correct the problem, the probability of future losses by unintentional shutdown is a statistical certainty.

The F-4 predominates in inadvertent engine shutdowns. They occur primarily during rendezvous or formation overruns when the engines are jam decelerated. In addition, there have been shutdowns during break for landing and during ACM. A good example of the potential for inadvertent engine shutdown during ACM was reported by the OIC of an F-4 fighter detachment. The incident occurred as an instructor pilot in a *Phantom* was countering an attack by an A-4E with a hi-G barrel roll underneath. This maneuver requires the F-4 to retard the throttles to IDLE and apply max G, causing the attacker to overshoot. The pilot then selects full afterburner and rolls back in the direction of the attacker. In this case, the pilot was unable to advance the throttles from the idle position, so knowing something was wrong, he looked inside the cockpit. He found both throttles outboard in the idle detent. The pilot was unable to advance the throttles as they were against the forward stops in the idle detent. He then pulled the throttles inboard and continued the flight.

Several factors were involved in this incident. The pilot, struggling to maintain sight of the attacker out the right rear side of the canopy, twisted his body the maximum amount and unconsciously pushed the throttles outboard into the idle detent. The throttles became a handhold to assist the pilot in twisting his body and improving his lookout on the right rear side.

The T-2C is another aircraft which has been involved in a substantial number of inadvertent engine shutdowns. In one case, a student (with an instructor in the rear cockpit) was flying wing on another T-2 as they entered the break. The student broke too soon after the leader. The instructor assumed control, and while making abrupt power changes, inadvertently depressed the power control release buttons. In violation of squadron SOP, he simultaneously retarded both throttles below 65 percent and the two engines flamed out. The instructor managed to get a relight on one engine but before power could be added, the aircraft stalled and the crew ejected. Neither pilot was injured, but the *Buckeye* was destroyed.

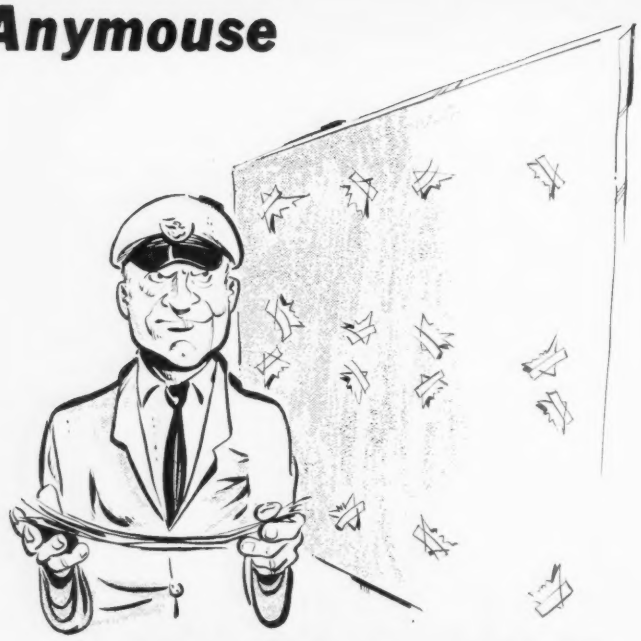
The problem has many facets. Basically, any throttle that can be stopcocked in one motion is a candidate for inadvertent shutdown. All preventive design concepts require two movements, either individual throttles separately (dual engines), or lift the throttle stop tabs (single or dual engine) and move the throttle to off.

The USAF F-4 aircraft have a finger lift tab arrangement, but this fix has not been adopted by the Navy, reportedly because of unfavorable Fleet response to an inquiry. Concern has been expressed that pilots must retain the ability to effect an immediate shutdown in an emergency situation, i.e., flight deck brake failure, shed bridle, premature holdback failure, engine fire, etc.

There has been some design engineering progress, however, that should help decrease accidental shutdown incidents. The hazard was identified by Lockheed system safety engineers and an internal mechanism developed which prevents simultaneous shutdown of both engines in the S-3. A similar concept has been approved for retrofit in the F-14. An ECP is presently under development for the T-2 and NAVSAFECEN has recommended that a carrier compatible design be developed for Navy tactical jet aircraft, with the F-4 being given first priority in actual installation.

In the interim, aviators should be aware that pilot technique is a major factor in inadvertent engine shutdowns and due care in throttle management is mandatory. A flameout in the break is no fun at all! ◄

Anymouse



A MATTER OF TASTE

ALL aircrews who fly out of my base are aware of the relatively high accident rate and poor facilities (manual approach control, one runway, etc.). Since being stationed here, I have been very closely involved with most of the accidents and the personal tragedy that continues long after the final endorsement is written. I've seen the look on my wife's face when a bridge partner becomes a widow. I've sat around the readyroom and second-guessed each accident and near accident. Depending on our mood, we blame the leadership, the program, the facilities, the aircraft, each other, the weather, and various combinations of these factors. Working in the "pits," as it were, I realize that we don't have the big picture, so our sessions are just a form of self-therapy and a means to keep our minds on safety.

But a recent occurrence made me wonder if the leadership part of our accusations might well be on target. I was over at our headquarters building one day and happened to walk by the staff aviation safety office. If the pictures that they display outside the office are any indication of their approach to aviation safety, then I can readily understand the high accident rate in this command. They have several large pictures of crashed airplanes with captions in inch-high letters. One was a burning transport and the caption alluded to bringing some more marshmallows and hot dogs to roast. There were others which were equally gruesome with captions just as inane. But the one I remember best was a fighter aircraft which crashed into the water shortly after leaving the runway. The aircraft was partially submerged in the surf and the caption said, "Every year she crawls out of the sea to lay her eggs and then returns." The airplane is clearly recognizable with tail markings visible. The pilot died because of mechanical problems which developed on takeoff (his ejection seat failed to fire). The pilot's widow, at least until recently, was still in the area. Had she perchance walked down the same hallway that I did, I'm sure she would have found the picture somewhat less than humorous.

I don't have the answer to aviation safety, and I realize the attack must be multifaceted. But, even the mere suspicion that a staff officer concerned with aviation safety wastes his time scanning accident reports for their humorous content is revolting. I enjoy humor and appreciate the tack that your magazine often uses to stir the cobwebs and increase interest. The pictures in the hallway, though, are anything but humorous and in very poor taste.

Notlaughingmouse

We're with you! You've more than likely ensured the removal of the "passageway humor."

Too Many Frequency Changes

RECENTLY, two F-4 *Phantoms* launched from a West Coast base to perform a routine fighter-intercept mission. The operating area is the subject of this report. After clearance from departure control, the flight checked in with the controlling agency for W-291, and was then instructed to squawk and

The purpose of Anymouse (anonymous) Reports is to help prevent or overcome dangerous situations. They are submitted by Naval and Marine Corps aviation personnel who have had hazardous or unsafe aviation experiences. These reports need not be signed. Self-mailing forms for writing Anymouse Reports are available in readyrooms and line shacks. All reports are considered for appropriate action.

REPORT AN INCIDENT
PREVENT AN ACCIDENT

switch frequencies to their sector controller. This new controller requested still another squawk and then cleared the flight to GCI control. Then GCI (another frequency change) had both aircraft change their squawk once more and switch from the primary check-in frequency to a discrete controlling frequency.

The purpose of this positive control, as explained to the aircrews, was to reduce the possibility of a midair. The excessive number of frequency changes and IFF squawks increases the amount of time "in the cockpit," thus decreasing lookout doctrine. I think there is a better way.

Wantstobeheads-upmouse

You're right. This matter has been discussed with COMNAVAIRPAC representatives. The Naval Safety Center has been advised that as a result of a recent conference, new procedures have been instituted to alleviate the problem.

Hopping Mad

AT midnight we briefed for a 4-hour ASW mission. Our CVA was in EMCOM conditions, so our takeoff and landing would be zip-lip. All fixed-wing operations were canceled due to high winds and heavy seas – but the helos were still truckin'.

Our SH-3D was spotted forward on the angle. During preflight, we knew the wind was high and gusty, but we didn't know how much until we entered the cockpit and saw the airspeed indicator showing 45 knots. Start and engagement were normal, and soon the tower gave us a green light to lift.

I pulled into a hover and had to use more right cyclic and left rudder than ever before to stay over a spot. I glanced down at the torque which read 90 percent – one helluvalot more than should have been necessary with that much wind. My copilot and I both checked all the gages and I couldn't figure out why the helo was trying to settle.

Then the port catwalk lights appeared through the starboard chin bubble. *We were being blown right off the flight deck!* I lowered the nose and pulled collective to the armpit. About 60 seconds later I released the breath I'd been holding as we gained flying speed and established a rate of climb.

After successfully staying out of the wild ocean during the flight, we returned for an 0530 recovery. Policy for night approaches was to fly the meatball down to a clear deck lighted by centerline and white floodlights. We picked up the lineup at 3 miles but had to crab like mad to keep from going left. The crab was even worse when we slowed down after acquiring the meatball.

As we approached, my copilot saw and hollered, "Somedam fighter is spotted in the landing zone!" Would you believe I didn't have enough left rudder to bring the nose around to land? The pucker factor really started rising when the helo responded very sloppily to control inputs. Then our personnel door popped open. I thought ohmygawd the thing I need least now is for this bird to come unglued.

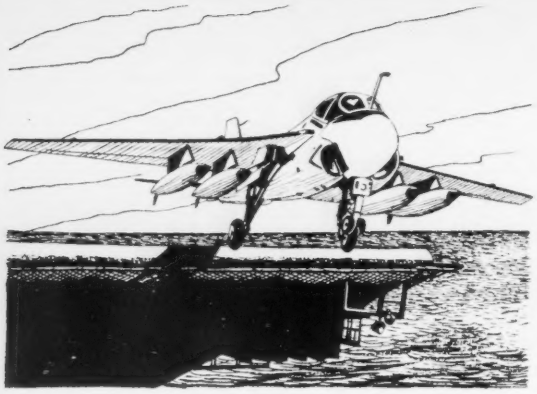
I waved off, the door was secured, the adrenalin subsided, and we came on around and landed port to starboard on the angle – into the wind. The boss wanted to see me.

The assistant air boss later claimed he didn't give us proper NATOPS winds (winds on the approach were 40 degrees starboard of the angle at 40 knots) because their course minimized the ship's roll and there were many aircraft on jacks in the hangar bay.

As for me, I'll break EMCOM in the future any time the wind and deck conditions make it unsafe to take off or land.

LT H. O. Leehelo

You made it, both off and back on, but any other pilot with one ounce less ability (and there are a lot) would have dinged a Sea King for sure. We get so emotional when inexcusable, delta sierra things like this happen that it's hard to maintain the right perspective. You're first. EMCOM, SCMEMCOM. Why didn't you holler **three** *times – after takeoff, during the approach, and after your waveoff? Air boss (or whoever was in the tower), a helo is an aircraft. Aircraft take off and land into the wind. The NATOPS helicopter winds and operating conditions are published to prevent accidents – not to be interpreted to fit conditions. CO, when in the name of peacetime, or any other reason, is zip-lip allowed to override safety? How can you permit flight ops outside of NATOPS limits and prudence? The considerable versatility of the helo should not be confused with infinite capability. Repeated violations of NATOPS limitations will kill you just as dead in a Sea King as in a Corsair.*



Letters

To be overweight is a fat worse than death.
Ace L.

Light Up the Exits

FPO, San Francisco – While reading the article, "A Decisive Factor," in the NOV '72 APPROACH, I wonder how many people have been needlessly lost in a sinking helicopter by their inability to find an escape hatch? I recently had the opportunity to visit HMS Blakes and her *Sea King* detachment. The British have installed saltwater activated lights on the four corners of their escape hatches and exits. This seems to be a relatively cheap but extremely valuable lifesaving aid.

AXC R. M. McCurdy
HSL-33 LAMPS Det 1

(See next letter.)

NALF Imperial Beach – I don't believe we've (Navy) done a thing to help crewmen and passengers in helicopters find their way out in cases where a helo ditches and rolls over. This lack of foresight and hindsight really puts us in the rear of the bus. Until a better system can be installed, I suggest a saltwater activated ACR/L8-1, Emergency Signal Lights (FSN 4220-968-1172), be installed at the squadron level in the interior of helicopters, adjacent to the primary passenger door.

AW1 A. F. McKeown
HSL-35 LAMPS Det 3

● Recently, NAVAIRSYSCOM tasked the Naval Submarine Medical Research Lab at New London to evaluate underwater emergency egress systems for helicopters. It looks like an 18-month project and then more time after that before Navy helicopters have any illumination for doors, hatches, and exits. However, the problem is recognized and hopefully there will soon be some positive action toward solving this perennial problem.

Rotary Wing vs Fixed Wing

NAS Pax River – BZ to Verdi and Henderson (all Marine jokes aside) for "The Landing Problem: Helicopter vs Airplane" in the MAR '75 APPROACH. We hope CNO reads the last column of the article at least twice! USN and USMC rotorheads are sadly behind our friends from USCG. They are ahead with both the equipment and the simulators. If you don't believe it, visit USCG station Mobile.

WST Rotorheads
LCDR Don Vetter
LCDR Don Wright
LT Ed Dinsmore
LT Russ Hallauer

We're Only Human

FPO, New York – Today I inadvertently forgot to lower the landing gear at the 180-degree position. It occurred during a VFR approach to the deck. The LSO had to tell me to lower my gear. You won't believe it, but this was my back-in-the-saddle hop after a layoff. How 'bout seeing if you can get us *Harrier* pilots a gear warning system.

Attacker

● "To err is human, to forgive divine"; however, Alexander Pope never flew airplanes. To quote a more recent sage, "The profession of aviation, unlike the deity, is unforgiving." You were just lucky that the "system" was on your side when you were obviously not.

It would appear that this problem can no longer be alleviated by saying we aviators should know better, when facts and mishaps say we apparently don't. Your request has been heard and installation of a wheels warning system has been agreed upon, at least in principle. Financial approval is presently being sought prior to the procurement process. Meanwhile, fellow creatures of habit, let's get back into good habits before that back-in-the-saddle hop reminds us only too well that we're only human after all!

P.S. LT John Leng, Royal Navy, our *Harrier* analyst, informs us that such a mistake in his British squadron cost a round of drinks for the entire squadron at Happy Hour. Not a bad idea.

Re "The Landing Problem: Helicopter vs Airplane"

NAS Norfolk – Col J. M. Verdi, USMCR (Ret.) and Maj D. W. Henderson, USMC, seem to have disposed of the "predictable reactions from rotary wing readers . . ." in their MAR '75 APPROACH article with a few short sentences prior to presenting their information. This rotary wing reader has some questions remaining, namely, why is the article written and slanted towards the power-off or minimum-power-available helicopter approach, and why is there no mention of the power-available check which should be used prior to committing the aircraft to any attempted landing where power available is in question?

It seems that airspeed is the major point of consideration, and except for the *Harrier*, stiff wings lack the hover capability. The big point that seems to be overlooked in the article is that, normally, all helicopter approaches end in a hover or in a collective cushioned landing. This seems to be the main reason that "You can't compare a helicopter to an airplane." As for the lack of what "precious little" the

helicopter pilot has going for him, I would like to point out the fine job that the Helicopter Training and RAG squadrons are doing in impressing young helo pilots with the important task of knowing the aircraft and its capabilities, and in applying that knowledge on each and every approach. Thinking that "... it is twice as hard to make a good landing in a helicopter as it is in an airplane..." may be excellent for the helicopter pilot's ego, but we'll really stop busting them when we use all of our training, NATOPS, and just good common sense in each and every situation.

LT M. G. Cox
AMO, HSL-34

Waste Not, Want Not

NAS Key West – Thought you might like to see what our modern supply system is offering these days. We ordered headsets for our new formfitting helmets for use in the RA-5C, and look what we received: earphones of the cloth-helmet vintage, packaged in 1945 (see photos)! I wonder what else they might have on the shelves? A new F-4U *Corsair*, maybe?

CDR W. P. Smith
RVAH-1

• It's reassuring to know that our supply system is geared to use what we have. Waste not, want not!

Disciplinary Action Reference

NAS CONUS – The Weekly Summary of 16-22 March 1975, in the last sentence of "Helo Get-Home-Itis," is inappropriate to Navy policy of divorcing disciplinary action from safety investigation. All of this is addressed in Chapter IV, para 402a; Chapter V, para 509a (2); and Chapter IX, para 903 of OPNAVINST 3750.6J.

A JAG investigation can be assumed due to the nature of the occurrence, but not as suggested by the Weekly Summary article due to the efforts of an ASO's investigation.

I recognize that reference is rarely made in Safety Center publications to disciplinary action, or activity leading to such potential action. Grampa Pettibone makes such reference sometimes, but his justifiable cantankerous remarks identify with the character.

LCDR ASO

• Your assumptions and sources are correct. Further, the new 3750.6K (in the mill) includes in para 605b, Item N, a new advisory, "Statements regarding disciplinary action... are not appropriate in this report."

Aesthetics vs Safety

FPO, New York – As an ex-catapult officer and current safety officer, my stomach knots up when I see pictures such as the one displayed on pg. 18 of the APR '75 issue. The gaggle of birdwatchers standing slightly inside the foul line watching a T-2 trap are in a supremely dangerous place. Anyone who has ever seen the famous PLAT sequence of the *Whale* parting a crossdeck pendant will attest to the cutting power of a severed CDP. Believe me, it doesn't even slow down when it contacts a soft human bod. Flight decks are not places to rubberneck. If you want to take

pictures, get up in vulture's row. By the way – I wonder where the arresting gear officer, air boss, flight deck officer, et al are?

LCDR Ike Ingram
VP-11

NAS Norfolk – In reference to the photo on pg. 18 in the APR '75 APPROACH, I quote from the CVA/CVS NATOPS Manual: "The deck will be considered foul any time unauthorized personnel are in or around aircraft parked in the safe parking area aft of the island." These individuals are obviously not gainfully employed in the landing evolution.

Several of these men are not in the required flight deck uniforms, i.e., wearing the HGP-9A cranial impact helmet, not wearing the Mk-1 flight deck lifevest, one man with his goggles up, and last but not least, two dudes with their sleeves rolled up. Also, if the real truth were known, that dark spot forward of the LSO platform is probably a shutter bug.

I don't want to seem overly critical of your outstanding efforts to "pass the word" on safety. However, people do commit errors from seeing incorrect procedures.

Keep up the outstanding work.

ABHC W. E. Nichols
A/C Handling Team
COMNAVAIRLANT

• Often, a photograph is so strong in its composition and illustrative action appeal that we tend to overlook its obvious unsafe implications. It's a case of aesthetical applicability fostering anti-safety implications. We promise to try to avoid these oversights in the future, however. ◄

The Bravo Zulu awarded CAPT Burns in the MAY '75 APPROACH has evoked much comment and criticism from the Fleet. Most of the feedback has been directed toward the inconsistency of criticizing the pilot in the self-medication article for trying to fly an aircraft on fire, and then giving kudos to CAPT Burns for doing a similar thing – only successfully. Some excerpts from comments received:

OUR READERS RESPOND

CAPT Burns – Bravo Zulu or Delta Sierra?

NAS Meridian – Great balls of fire! When will you young whippersnappers at NAVSAFECEN learn to eliminate contradictions in your APPROACH magazine? Proper note is made in your MAY '75 issue on pg. 19 in one article that "the instructor then committed a fatal error by trying to land the aircraft (A-4 type) with a confirmed fire." So far so good, but lo and behold, on pg. 21, in a separate article, you BZ a booboo in the Bay Area. Does the Safety Center feel that unnecessary dumping with a visually confirmed fire in the tail section and attempting an approach that could have caused considerable damage constitute "judgment and skill of a true professional?" Finally, what impression do you honestly feel this violation of NATOPS that has claimed many a fine Naval pilot will have on the future ranks of aviators who look for definitive guidance from NATOPS and the Safety Center? At the very least, you should receive a Delta Sierra for your lack of consistency.

LT K. C. Williams
VT-7 Safety Officer

NASA, Houston, TX – It is difficult to argue with success, and I certainly admire people who can coolly handle an emergency. However, I feel there is a contradiction in two articles in the MAY '75 issue of APPROACH. I appreciate the pilot's concern over the populated area beneath him, although I cannot believe the entire Bay to be overpopulated. Also, I wonder what an AAB would have said if the pilot, as well as people on the ground, were killed because of control failure on final. The difference in success and failure is frequently a fine line, and it is indeed difficult to argue with success, but I feel that one person should not be criticized for failure, and another praised for success under practically identical conditions – at least not in the same issue!

Ed Rainey
Research Pilot
Lyndon B. Johnson Space Center

Meridian, MS – On one page you condemn a man for attempting a landing with confirmed fire, and two pages later you applaud a man who executes the same maneuver under circumstances which were far more serious. Apparently, the conclusion to be reached by student pilots is simple. The only difference between a condemning AAB and a BZ is that one man made it and the other did not. Was this really your intent? Would it not have been better to dump a sick bird into the Bay rather than risk death or injury to people in "a densely populated area?" Isn't there a difference between being a pro and being just plain lucky?

2dLt W. F. O'Hara, USMC

The readers' letters, calls, and personal conversations have brought up some very valid considerations. It was indeed unfortunate that the two apparent contradictions appeared back-to-back. The Bravo Zulu was, however, very carefully screened and considered here at the SAFECEN for just the reasons brought up. We try very hard to avoid passing out kudos to someone unless their performance is beyond reproach, and many contributions are not published because the pilots have violated some rule (SOP, NATOPS, OPNAV) without significant justification. It was decided to publish this particular BZ, and after some further research, an explanation for the apparent contradiction in attitudes can be offered.

A review of the TA-4 accident revealed some interesting things. Shortly after the hard touch-and-go, the instructor was informed by the tower and several aircraft in the pattern that he was on fire. He acknowledged these transmissions and broadcast that he was going to try to "bring it around." Further transmissions to eject were similarly disregarded, even in light of the fact that both his mainmounts were "mangled" and unsuitable for landing even if he could have flown the aircraft around. Furthermore, the incident took place at an outlying field that is in wide open territory where virtually no threat to any populated area exists. Therefore, it seems that this pilot displayed poor headwork by continuing to fly the aircraft when there could be no question in his mind that he had a confirmed fire, and there was really no way to land the aircraft anyway. Ejection was obviously the most desirable alternative.

The mishap at Alameda, while similar in some respects, was nevertheless quite different. First of all, CAPT Burns never knew for sure that he had a major fire because he lost his radio shortly after takeoff. He obviously had problems, but the extent of the fire could not be known while he was in the air. Most importantly, however, the area around NAS Alameda is perhaps the most densely populated region adjacent to an air station in the world. His position in the traffic pattern at the time of the emergency was such that to abandon the aircraft could have resulted in major personnel injuries. It is, of course, conceivable that he could have lost control of the aircraft at any point during the approach, and thus it must be concluded that he jeopardized his life by taking a calculated risk and flying the aircraft back rather than endangering the local population. This has to be considered a courageous deed, and his airmanship in accomplishing the landing was obviously exemplary.

In the ultimate analysis, headwork has to be the key to any situation. We can't think of a rule in aviation that is an "always" or "never" situation. The rule to eject when a confirmed fire exists is a sound one, and certainly if CAPT Burns had gone this route, he would not have been criticized. This rule thus protects the pilot against foolishly endangering his life just to save an aircraft. When other factors are involved, however, the total situation has to be analyzed and a decision made at that point. In our opinion, CAPT Burns showed courage, good judgment, and made the right decision (under his circumstances). Conversely, the TA-4 pilot showed courage, poor judgment, and made a bad decision based on *his* circumstances. ◄

A New View for Safety

By LCDR L. R. Billings
HS-4 ASO

Recently, while operating in the local landing pattern, the first crewman of an HS-4 *Sea King* observed a sunbather, female type, walking on the lower roof of the Operations building. Although the distance was too great to fully appreciate the view, the situation may lead to excite the active imagination of Naval aviators and possibly cause an aircraft incident.

The information above was submitted on a Black Knight Hazard Report received by the squadron ASO. Normal procedure upon receiving these reports is to follow up and correct whatever hazard is reported, then file the report after having advised the reporter of the action taken. However, this one required personal, undivided attention, and it took about a week to wind it up.

The subject of the report, Miss NALF Imperial Beach, delivered the reply personally:

"In reference to subject report, this practice was not discouraged by the Operations department in the past, since it was felt that this was but another service provided to our PacFleet helo crews. The rationale considered was that by making this service available, it alleviated the necessity to spend countless hours searching the beaches of SoCal for a similar display, and the risk of a possible flight violation should a similar spectacle be found and investigated.

"Additionally, it is well known that at Robert's Park virtually the same detection opportunities are available, but at a more critical portion of the pattern due to the necessity for voice communications and cockpit duties, not to mention eye strain and other physiological distractions, such as vertigo due to rapid head and eye movement, hyperventilation, or anything else that might arise, which would not be conducive to the total concentration required by an aviator.

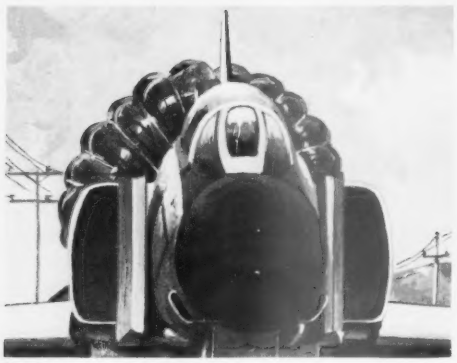
"It is the opinion of base operations that the service rendered, while not only substituting quality for quantity, also allows the intrepid aviator or crewman a leisurely, unobstructed view which can be enjoyed at the individual's convenience. Yet, he retains sufficient time to regain the full use of his faculties to resume the rigid mental discipline required by the demanding machine that he flies.

"We feel that the presence of the distraction also serves as a fine training aid to ensure that flightcrews are capable of ignoring any distraction, whatever it may be, as the situation demands in the performance of duties. It is another method to achieve professionalism that we know your squadron strives for.

"Should complaints continue, the service will be terminated." ◄

Vol. 21 No. 2 NAVAIR 00-75-510

approach



Pg. 3

Pg. 21

Pg. 24

CONTENTS

1 King of the Road
4 Safety Around the World
By LCDR H. H. Broderson
6 "Lip Service to Oxygen Masks"
8 Objectives in Carrier Qualifications: A Rebuttal
By LT T. V. DeMarino
10 F-4 Intentional Gear-Up Landings
13 Bravo Zulu
14 The Disease of Crewman Complacency
By AE1 H. W. Garner
16 Low, Low Approach
18 Embarked Flying
By LT P. J. Hardy
20 Nonaviation Ship Waivers
By LCDR M. G. Steen
24 Inadvertent Engine Shutdowns
30 Our Readers Respond
31 A New View for Safety
By LCDR L. R. Billings

DEPARTMENTS

23 Notes From Your Flight Surgeon
26 Anymouse
28 Letters

RADM Wm. H. Ellis
Commander, Naval Safety Center
CAPT W. F. Rau
Chief of Staff

CAPT Richard A. Eldridge
Director of Aviation Safety Programs
CDR J. D. Connery, Editor-in-Chief
LCDR Barry Patterson, Publications Editor
LT Richard P. Shipman, Editor
Robert Trotter, Art Director
J. A. Bristow, Life Sciences Writer
W. E. Cumbie, Fixed Wing Writer
C. B. Weisiger, Helicopter Writer
R. L. Marcoux, Maintenance Writer
Blake Rader, Illustrator
William Langston, Illustrator
Catherine M. Salas, Editorial Assistant

Our product is safety, our process is education, and our profit is measured in the preservation of lives and equipment and increased mission readiness.

PURPOSES AND POLICIES/APPROACH presents the most accurate information currently available on the subject of aviation accident prevention. Contents should not be considered as regulations, orders, or directives and may not be construed as incriminating under Art. 31, UCMJ. Photographs used to illustrate articles in APPROACH do not necessarily reflect the actual aircraft, air stations or ships that are described in the text.

PHOTOS/Official Navy or as credited. Non-naval activities are requested to contact NAVSAFECEN prior to reprinting APPROACH material.

CORRESPONDENCE/Contributions are welcome. The right to make editorial changes to improve the material without altering the intended meaning is reserved. Reference to commercial products does not imply Navy endorsement. Views of guest-written articles are not necessarily those of NAVSAFECEN.

DISTRIBUTION/Requests for distribution changes should be directed to NAVSAFECEN, NAS Norfolk, VA 23511, Attn: Safety Publications Department. Phone: Area Code 804, 444-1321.

PRINTING/Issuance of this periodical approved in accordance with Department of the Navy Publications and Printing Regulations, NAVEXOS P-35. Library of Congress Catalog No. 57 60020.

CREDITS/This month's cover, by staff artist Blake Rader, depicts the TA-7C, two-place training version of the LTV *Corsair II*. Expected to join the Fleet in August 1977, the two-seat A-7 will provide improved training quality and decreased training time for attack aviators. **Page 4** photo courtesy the author. **Page 23** "B.C." by permission of John Hart and Field Enterprises, Inc.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1975 — 635-273/1 REGION NO. 3-11

Can't Make 'em All

By an A-6 Squadron ASO

OUR squadron has just transitioned from a long training cycle ashore to a fully-ready-to-deploy all weather attack squadron. With ship refresher training, carrier quals, ORE, and ORI behind us, we can look back to a few close ones that could have cost us dearly – little things that for the most part now come as natural as breathing, but on the transition to shipboard operations, had to be relearned by old and new crews alike. Little things in NATOPS which are forgotten during months on the beach and somehow don't get covered in precarrier briefs because they are as "obvious as the nose on your face."

Let me cover a few examples for you. After launch, a flightcrew was asked to check the tanker sweet. They did and proceeded on their assigned mission – bombing an inland target. On the second roll-in, the pilot noticed he only had 2000 pounds of fuel remaining in the main bag; the engines are fed from this fuel cell. In checking around the cockpit, the crew discovered the fuel ready switch in the flight position. Now everyone knows you return the fuel ready switch to OFF after inflight refueling. Add a distraction or two, and you have one lost aircraft because of fuel starvation. It has already happened in the A-6 community.

Another example was the case of the buddy store control panel. Several of our A-6As were configured for a buddy store, and as always happens, some stores malfunctioned. To expedite future configuration changes, the control panels were not removed with the malfunctioning store. A crew manned the aircraft and, after seeing an Aero-1D droptank on the centerline, thought no further.

After launch, it was discovered that the centerline drop would not transfer. After a lengthy discussion on departure control, the aircraft was bingoed to the beach. Now everyone knows how to get fuel out of an Aero-1D droptank . . . or do they? At least, everyone in this squadron *now* knows you must go *FROM STORE* on the buddy store control panel.

Other examples include overconcern for the master caution light after dropping the landing gear. This is a normal occurrence in the A-6 because the antiskid is off for carrier operations. One pilot turned off the port generator instead of APC on final for a night trap. Not a big thing, but it could have been if the other generator had failed.

Then there was the night a new crew couldn't understand why they were *losing* more gas than they were *receiving* from the tanker. They soon found the problem – the fuselage dump had been turned to ON instead of the fuel ready switch to FLIGHT!

All these incidents fortunately resulted in only a little embarrassment for the flightcrews involved. In fact, in only two cases were the incidents brought to the immediate attention of the entire squadron. The other crews kept quiet and only told their tales at later sea story sessions, well after the heat of the incident had passed. There lies the other and biggest problem. During preflight training, we paid with grinder time for failing to pass the word; now, the price is much higher.

The incidents all occurred in A-6 aircraft, but if you're an A-7, F-4, or F-14 driver and are saying things like, "that can't and won't happen to me," look out! Your world of make-believe might just come down on your head.

As has been said before, when doing something new or different, look ahead and cover all the little procedures and techniques that affect the upcoming operation. Cover these items in all crew meetings *before* the operation, no matter how obvious they may seem. Then, as incidents occur – and they will – pass the word! Let all crews profit from your error.

Learn from the mistakes of others; you won't live long enough to make them all yourself. ◄

Safety is a way of life for those who choose to live.

GYSGT L.P. Elliott
H and MS-24 Q.A.